The Builder.

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To Facilitate the Improvement of the Dwellings of the Labouring Classes.

CONSIDERING the lot of multitudes of people, it is wonderful they are so orderly as they are, and that they live even so long as they do. The density of population in Liverpool, for example, is double that of London. 30,000 families in it, or 150,000 people, reside in single rooms, of which 15,000 are cellars,—often filthy, dark, and badly, if at all, drained. Careful statistical observations in Manchester, extending over the past ten years (by the City Officer of Health) show that whereas the annual mortality in its healthiest part is only 14 per 1,000, it amounts to 70 per 1,000 in its most overcrowded portion. The average mortality was 30 per 1,000, or 10 more than a normal of 20 per 1,000. This implies (only reckoning the city population at 300,000) a mortality above the average, at the rate of 3,000 extra per annum, or 30,000 in the ten years! What are the worst railway accidents, or shipwrecks, to such a sacrifice of life? How much *crime*, in addition to death, has been produced by this state of things, is only known to the Omniscient One.

If we consider, said Mr. Cross, that the death-rate is about 22½ per 1,000 throughout the whole country—that in London it is 24 per 1,000, and that in Manchester it has been 30; in Liverpool during the last ten years has been 38; and in Sunderland 37 per 1,000,—there must of course be something wrong in these towns which makes the death-rate so different. Then, again, see the marked difference between one part of a town and another. In Liverpool, where the death-rate is 38 in 1,000, some parts of the town are just as healthy as London, and if you inquire into local areas you will find that in certain courts, having a population of from 2,000 to 2,100, there have been more people sick in five years than the whole population—not of ordinary diseases, but fevers, and that there is not one house in which there has not been a death annually. When it is found that in Manchester in some of the small enumerated districts the death-rate was in one district 67 per 1,000, and that in another district, now swept away, the death-rate amounted to 70 per cent., it must be admitted that there is a great deal of preventible disease; and if by our legislation and without any inroad upon the principles of political economy we can prevent such a waste of life, power, energy, health, and everything that makes a nation wealthy, it is our duty to interfere and see whether we cannot do something to arrest this waste. If we inquire what is the death-rate among young children in particular parts of these towns, we shall arrive at the most terrible results. A report of the Medical Officer of Health for Manchester, shows that in one particular district, out of 100 deaths of persons of all ages, the deaths of children under five years reached the dreadful rate of 49·7. In Liverpool matters are still worse. The Friendly Societies Commission went very deeply into the question of the death-rate of children; and they found that, while the annual rate of mortality of children under one year on the average of all England amounts to 18 to 100 persons living, in Liverpool it amounts to 30; and between the age of one and two, while the average for England is 6·9, in Liverpool it is 18½. Similar results are arrived at if we compare the number of children of the working classes who grow up to be strong and healthy adults with the number of children of the higher classes who do so. The Medical Officer of Health for Paddington has prepared tables, in which a comparison is instituted between such districts as Gloucester-square, Hyde Park, and Westbourne-terrace, and equal areas occupied by the working classes; and the result is that the less-crowded district, with one-sixth of the population of the other district, produces twice the number of children who grow up to be healthy adults. We have to consider what a waste of human life this is, and ask ourselves whether we can give the children of the working classes an equal chance of growing up to healthy manhood and womanhood.

With these and other similar facts before him, Mr. Cross, on Monday last, explained to the House of Commons his Bill for facilitating the Improvement of the Dwellings of the Working Classes in large Towns. It would proceed, he said, entirely on sanitary grounds, and would have strict regard to these two canons,—that the State ought not to provide any class of the community with the necessaries of life, nor to enable bodies of any kind to supply those necessaries at a lower rate than the market price. To illustrate the dreadful evils of overcrowding, Mr. Cross quoted largely from the death-rate statistics of London, Liverpool, and Manchester, and related at length what has been done to grapple with them in Liverpool, Edinburgh, and Glasgow in the way of demolitions and new buildings. Our readers have heard it all before. In fact, as a correspondent remarks, Mr. Cross's effective speech reads like an article that may be found in any one of our last twenty-five volumes. So much the more do we applaud him for it, with the expression of an earnest hope that he may effect what he desires to do. The Bill for the present is confined to the metropolis and large towns; it is to be worked by the City Corporation and the Board of Works in London, and by the Town Councils in other towns, and is to be set in motion by the medical officers. When a medical officer reports that a district is unhealthy by reason of overcrowding, the local authority will pass a resolution that an Improvement Scheme should be prepared. This is to be accompanied by maps, plans, &c. All plans relating to the metropolis will be laid before the Home Secretary, and in other cases before the President of the Local Government Board, who, after due inquiries, will embody them in a Provisional Order, so that the expense of a Private Bill will be saved. There are provisions for settling the basis of valuation and the mode of arbitration, and the Bill provides that when the sites are acquired the local authority shall not build unless after a certain time it is found impossible to induce private speculators to undertake the work.

With the statement, as placed baldly before the House, that the Act is to be set in motion by the medical officers of health we are by no means contented, these officers being too much under the thumb of vestries and boards of guardians, and, in many cases, we have their own evidence for it, they dare not make any suggestions adverse to the personal interests of members of the body by whom they are elected, and sometimes employed.

Another fear which we have as to the practical working of the measure proposed by Mr. Cross may be shortly indicated thus. When those houses which are unfit to live in have been pulled down, and the ground cleared, the building of other houses is not to be undertaken, as we have already said, by the Sanitary Authority, but the ground is to be sold or leased to those who are willing to build new houses upon it; but instead of seeing new houses upon it suitable for the persons whose houses have been pulled down, we fear we shall see it occupied by another sort of houses,—a sort which will pay the purchaser of the land better than mere workmen's houses would do. The rents of what is called "cottage property," or, in the language of house agents and collectors, "small stuff," may be, say, 3s., 4s., or 5s. a week; but it will probably pay the new speculating builder much better to build houses which he can let at 8s. or 10s. a week, or more; and why?—because with this rent in view he can afford to bedizen the houses with cheap finery, and make them "genteel," which will not add nearly so much to the cost of the houses as the sum which would be represented by the difference between the old rent and the new,—price of ground included. The speculating builder and the "jerry" builder have together done more than half the mischief which has been brought about.

The means for facilitating the work of regeneration must ultimately be the provision for combining a remunerative return with low rental; in other words, for building well, and, at the same time, economically. We may point out that almost every possible means of reducing the cost of dwellings taken separately has been suggested, if not actually carried out; and probably the only method of obtaining a cheap and good and healthy dwelling for the rents which the poorer classes can afford to pay is by the system of blocks of dwellings, in which the area of land, and the amount of material and labour employed, can be economised so much better than in buildings in the street form, and in one layer only, so to speak. Whether Mr. Cross's Bill will really clear away the legal difficulties, and facilitate the acquisition of old and unsanitary property for rebuilding, we have yet to see. Any enactment which would facilitate and encourage the wholesale clearance and re-arrangement of many districts in London, not to speak of other towns, would deserve public gratitude towards its framer. We shall look with interest to the progress of Mr. Cross's effort in legislation, and will do all in our power to inprove and aid it.

DESIGNS FOR THE NEW CITY LIBERAL CLUB, WALBROOK.

Our of six designs sent in for the new club proposed to be erected on a site in Walbrook, the committee have selected that signed "Con Amore," which is by Mr. Grayson, of Liverpool. The plans, which have been exhibited in a room in the premises of Messrs. Maclure & Macdonald, in Queen Victoria-street, were required to show two stages in the development of the club buildings; the first comprising what could be erected on the land already purchased (between Nos. 4 and 7, Walbrook), and now being cleared for building; and a further set of plans showing the future extension of the premises in case the property, now standing as Nos. 7 and 8 in the street, can be acquired or made available for that purpose.

The site, as at present acquired, is of a peculiar outline, consisting of an oblong block running back at right angles, or nearly so, from the street-line, and with a smaller square of land tacked on cornerwise behind the site now occupied by Nos. 7 and 8. The author of the selected plan has arranged the entrance at the left of the frontage immediately to be built, so that in the event of the extension being carried out, it will form a centre entrance in a symmetrical front. There is a tolerably large entrance-hall and staircase in the centre of the building, and the main portion of the front is occupied on the ground-floor by the reading-room, behind which is the library. The small additional piece of ground at the back angle of the site, mentioned above, is utilised as the "strangers' billiard-room," and not carried up beyond the ground-story. The first-floor is mainly occupied by the large dining-room, extending over both reading-room and library, L-shaped

on plan; a pleasanter arrangement for a dining-room than having a large apartment all visible at a *coup-d'œil*; it gives more room for a choice of places, and does not present such a formidable aspect, when full of diners in operation, as a square apartment. The second-floor contains public and private billiard-rooms in front, a large smoking-room behind them, and a private dining-room in the rear; whether it is desirable to have a second door in the private dining-room, so directly adjoining the door of the smoking-room, we should rather question. The third floor contains the kitchen (over the smoking-room), and rooms for servants, &c. The system of placing the kitchen at the top is becoming common now, in such cases, and has the advantage of keeping the premises much more clear of cookery odours than is usually possible when it is placed according to old fashion, in the basement. Of course there is a lift in immediate connexion with it. Lavatories and dressing-room accommodation for members are provided in the basement, and a convenient and light room there also for newspaper files; and beneath this is a cellared basement, to be let, we presume, for storage.

In the plan showing future extension, the library is shifted to the left of the entrance corridor, and the library shown in the first plan is made an additional reading-room. The additions on the other floors consist mainly in extra private rooms, a small smoking-room, a card-room, &c., without any alteration of the main divisions of the plan.

The architectural design for a club in such a narrow and confined street it is difficult to make much of. Considering both the nature of the site and aspect, and the associations of Walbrook as a part of Old London, we should have preferred something of the quietly picturesque type, since it is of no use putting a building of at all grandiose aspect, where it can never be seen more than a few feet off. Mr. Grayson apparently has not been unmindful of the nature of the position, and has avoided anything that can be called pretentious. The design is in a manner of which we are not without examples in London and elsewhere, in which classic feeling predominates, and mostly classic detail, but with touches borrowed from Gothic. The ground-floor is treated very plainly, with scarcely any decoration except the fluting of the broad pilasters between the windows: whether this story is intended to be faced with granite is not quite apparent; the handling of the large elevation in pen-drawing rather suggests this, but not very distinctly. The first floor, when the whole is completed, will present a series of five bay windows, segmental on plan, and with their lines abutting on heavy rusticated piers, which separate them, and which are sloped back under the main cornice, after the manner of buttresses. On the third floor, over the cornice, the wall is set back, and the elevation, as seen from below, finishes with a light balustrading, behind which are the windows of servants' rooms, and so on. The architect, in his perspective sketch in sepia, has rightly shown the front from something near the point of view from which alone it can be seen when built, in perspective from one end. The general appearance is solid and dignified, but undeniably heavy, especially the effect of the bay-windows referred to; and we cannot but regret that, in a comparatively secluded (though we can hardly say quiet) site such as this, there has not been an attempt made to give a little more of the domestic character to the architectural design,—a character which certainly is not unsuitable to a club. As it is, the building will look heavier in reality than it does in the drawing, from the narrow limits of the street; and in such a position it would be better to place any decoration that there is on the ground story, that being the only place where it can be seen, except from the windows of opposite houses.

Of the other designs (which we take in the order of hanging), "Experientia docet" shows a plan very similar in its main features to the last-named, except that the members' billiard-room is downstairs and the strangers' upstairs, which is not so suitable as the opposite arrangement. There is a well-executed view of the large dining-room, showing a handsome room with no very special features. The external design is in true club-house style, a mass of engaged columns and other well-known features, presenting a whole unsuited to the situation, though it would look as well as many other buildings of its class if placed with a wide space before it, as indicated in the perspective.

"Non quis sed quid" has devoted the whole front of the first floor to an enormous dining-room, like that of a "grand hotel," too large even to *look* comfortable, and certainly more than can be requisite in proportion to the scale of the other departments. The stairs are very conveniently packed out of the way, and project in part from the back of the building, under a glass roof in a kind of greenhouse form, but they are somewhat cramped in proportion and not central enough. The lavatories are rather ingeniously arranged over the centre part of the strangers' billiard-room, which is in the basement. The main part of the ground-floor is occupied by reading and writing rooms and libraries communicating with one another, with sliding folding-doors between, an arrangement in which we cannot see any advantage. The design is of a somewhat tame but not unrefined Classic character, with a frieze sculptured in basrelief, but broken into rather oddly by the pediments of the second-floor windows.

"Civis" shows a very compact, well-considered plan. He uses the mezzanine system by way of gaining height for his big rooms without exaggerating the smaller ones. There is a central entrance (one that will be central, that is, when the whole design is completed), with a large dining-room to the right on the ground floor, the library being over it. There is no special provision for a reading-room, this and the library being combined in one, and the library, when the plan is complete, is to extend right along the first-floor front, with coupled columns some feet from the walls, opposite each pier between the windows, and bookcases projecting at right angles from the wall to the columns. This is a very good arrangement, if the object be to treat a library so as to combine architectural effect with book stowage; but it is surprising the author should not have perceived how unsuitable such an arrangement must be for a reading-room, by shutting out light from everywhere except just by, or just opposite, each window. The elevation of two or three bays of the interior wall of the library is a remarkably nice little drawing, and shows agreeable treatment, but it is calculated to mislead as to the effect of the lighting when completed. The elevation is in a slightly heavy but dignified Classic style, the main features consisting of coupled pilasters on ground-story, coupled columns on first-floor, and coupled smaller pilasters ending in brackets under the cornice on the second-floor. The details show refinement and sense of proportion. The entrance-lobby is shown in a rather heavily-tinted perspective, with the staircase seen in the distance at the further end: we think it a mistake to place it so far in. There is much merit in this set of drawings, which have been prepared with great care.

"Per non dormire" is a rather pathetic motto, seeing that the consumption of midnight oil apparently alluded to has brought the author no return but experience; but this may still be useful to him on future occasions. The plan would convey the impression of being by an inexperienced hand: it is very defective in arrangement and concentration, and so little care has been taken to modify the irregularities of the site that scarcely any room in the building has a right angle in it, the walls running parallel to the boundaries of the site. The elevation possesses originality, and shows an eye for the picturesque; the large busts (we suppose of eminent "Liberals") which form the finish to the projecting piers or buttresses, could never possibly have been seen at that height in so narrow a street, and convey the idea that the author could not be acquainted with the locality. But this is such a common fault in competition drawings, that one can draw no conclusion of that sort with certainty: there is scarcely any competition for town buildings in which the majority of designs do not seem to be made utterly independent of the consideration as to how they can really be seen in execution, and the perspectives contrived to give views of them which no one will ever see.

"E pluribus unum" occupies the centre part of the ground-floor with a large dining-room, or rather with two dining-rooms placed *en suite* one behind the other; an arrangement rather wasteful of space, and separating the two sides of the premises too completely. The entry is to the right hand of the front, and the lavatories are in the subsidiary plot at the left hand corner behind the main building, the route to them is thus a little too long for convenience. The first-floor is occupied by a library and reading-room, with folding-doors between; and the private dining-room, which seems larger than necessary. A good deal of room is occupied in corridors and stairs, and on the whole we cannot consider this a very well-planned building. The architectural design appears to us better suited to the nature of the site, being smaller in detail and quieter in treatment than any of the others; it is in what might be termed either Jacobean or Late Elizabethan, with touches a little too Gothic for the one and too Classic for the other: it is a pleasing design, worked out with considerable refinement.

On the whole, however, we think there can hardly be a question that the committee have chosen what is, taken all round, the best design of the set, only regretting that we can but partially sympathise with the architectural form proposed for the building, and that the opportunity was not taken to break a little more free from the accepted "club" style, on a site which seems to afford so good an excuse for doing so.

The other competitors are Messrs. Chas. Barry, Chatfeild Clarke, Cockerell, H. H. Collins, and Lockwood, but the designs are not identified.

THE ROMAN CAMPAGNA.

Once more an attempt is to be made to drain this pestilential tract of country, which contains about 3,900 square miles, or 3,000,000 acres. Independent of the indelible associations with which it is connected, and the glorious deeds of which it has been the theatre, its appearance produces an extraordinary impression on the mind of the beholder. Silence and desolation are around. A space extending from Otricoli to Terracina, above sixty miles in length, and on an average twenty in breadth, between the Apennines and the sea, does not maintain a single peasant. You look in vain for a ploughed field, a sheaf of corn, or even a house. There is nothing to indicate the present existence of man, but his former existence is marked by the tombs which line the road, and the gigantic remains of aqueducts striding across the plain, which once brought, and some of which still bring, the water cool and clear from the fountains of the Apennines to Rome.

Dickens thus graphically sketches the scene:—"An undulating flat, where few people can live, and where for miles and miles there is nothing to relieve the terrible monotony and gloom. Of all kinds of country that could by possibility lie outside the gates of Rome, this is the aptest and fittest burial-ground for the Dead City. So sad, so quiet, so sullen; so secret in its covering up of great masses of ruin, and hiding them; so like the waste places into which the men possessed with devils used to go and howl, and rend themselves in the old days of Jerusalem." But though a curse seems to have fallen on the country, as far as man is concerned, it is far otherwise with the powers of physical Nature. Vegetation springs up yearly with a vigour undiminished, since the days when Cincinnatus guided his plough through the fields of his Sabine farm. The herbage is so rich that the herds of savage buffaloes and cattle which pasture the district, are unable to keep it down, and the greater part of it becomes rank. The prolific powers of Nature are still more marked in the Pontine Marshes during the hot months, when the air is so laden with poison that it is dangerous, and felt as oppressive even by the passing traveller.

It was not thus in former times. The Campagna, now so drear and desolate, was once thickly inhabited, an historical fact of which its numerous ancient cities are alone sufficient evidence. The Pontine Marshes were inhabited by thirty nations. The freehold of Cincinnatus, the Sabine farm, stood in the now desolate plain at the foot of the Alban Mount. We read that so rich were the harvests, and so great the agricultural treasures to be collected in the plains round the Eternal City, that for two hundred years and more after the days of Romulus and Remus it was the great object of their foreign wars to gain possession of it. It is certain also that at a later period the vicinity of Rome was deemed insalubrious, for Cicero describes its site as "locum in regione pestilenti salubrem"; and Livy, speaking of the mutiny of the Roman garrison of Capua, in the year of the city 413, says that among other grievances they complained of having to fight in the pestilential marshes round the city. Strabo says that in his day the insalubrity of the air was confined to a few places in the neighbourhood of Ardea and the Pontine marshes; and it is well known

that during the first three centuries of the empire, the Campagna was studded with numerous villas, as their ruins still attest. At present it has returned to the state of abandonment and consequent insalubrity mentioned by Cicero and Livy; and this evidence proves that the air of the Campagna has differed at different periods. It has been healthy when peopled and cultivated, and insalubrious when comparatively reduced to a desolate wilderness, so it would seem that its healthiness or the contrary depended on its population and cultivation. We must seek for the active causes of the unhealthiness of the Campagna in its low level, in consequence of which it must, without proper drainage, retain the stagnant waters that fall in rain, that descend in torrents from the hills in the vicinity, or escape from the ruined aqueducts; in the quantities of annual and vegetable matters decomposed on its surface during the hot season; in the evaporations from its marshes and morasses; and, perhaps, in its proximity to the Pontine Marshes, for it is recorded that in the days of Trajan it was the opinion of many persons that Rome itself, although forty miles distant, was affected by the Pontine malaria. We learn from Gell's "Topography" that in the time of Theodosius the Campagna was a desert; and Gregory the Great expressly says, "The lands are depopulated. No one dwells in the fields." The only inhabitants of the Campagna are the shepherds, armed with long lances and mounted on small and hardy horses, who are occasionally seen following or searching in the wilds for the herds of savage buffaloes and other cattle; and the few wretched beings that are to be found at the post-houses.

Many attempts have been made, but with partial success, to drain the Campagna. About three centuries before the Christian era, Appius Claudius, the censor, surnamed the Blind, stood forward as the first restorer of this tract of country. He carried across the morass the road which is still known as the Appian Way, which in magnificence has never been surpassed. It was not, however, till a century and a half after the making of the Appian Road that Cornelius Cethegus, the consul, undertook to drain the Pontine Marshes. Dugdale, in his "History of Imbanking and Drayning," quaintly tells the story:—"In the year 593, when L. Amicius Gallus and M. Cornelius Cethegus were consuls, the Senate being in counsel concerning the provinces, because these seemed not sufficient use against the enemy for the ordinary forces of both the consuls (which are four legions besides the Auxiliaries and Socii), there was a motion made concerning the improvement of a great level of waste land lying under-water about forty miles from Rome, in Latium, which business was entertained with great approbation. . . . . The consuls A^{o} 566 had herein given a president, who, lest their soldiers should be idle, employed them in making highwayes. Hereupon it was decreed that one consul should attend the enemy (in Gallia), and the other undertake the drayning of the Pompeine (Pontine) Marshes." The efforts of Cethegus were transient and impotent. Julius Cæsar found this large tract of country a prey to new desolation, and was about to restore it to fertility, when death suddenly put a stop to his plans. Augustus took up the work, and cut alongside the Appian Way a canal which was destined to receive the stagnant water, and to afford it an outlet. It was on this canal that Horace and Mæcenas embarked on their way from Rome to Brundusium. After Augustus came Trajan, who was followed by Theodoric, and in more modern times by several of the popes, who attempted, with partial success, the restoration of the territory. It remained for Pius VI. to do more for the Campagna than any of his predecessors had been able to effect. Immediately after his accession, he went to visit the Campagna. One of his biographers states that "He shuddered, when, from the top of a hill, he saw at his feet the deep ravages of time, and of the inundations, the pestiferous fogs, which extended far and wide, and the dangers which ever threatened his sacred person, should he dare to tread the unsolid ground." On his return to Rome, he established a bank, under the name of Monte dei Marecangi, to receive the funds necessary for the enterprise, and in a little time the voluntary subscriptions amounted to 120,000 Roman crowns. Bolognini, one of the engineers whose plans had been submitted to Pope Clement XIII., was immediately put at the head of the undertaking; and in 1777 Sain, an eminent surveyor, was ordered to draw a plan of the ground, and to indicate the spots in which the works might be begun with the greatest probability of success. Pius succeeded in draining 9,000 rubbi which were constantly under water.

The work that Pius VI. left off is to be taken up—in fact, is already begun—by the King, at the earnest entreaty of Garibaldi. The king has headed the subscription lists, which are being rapidly filled up. With the wonderful appliances of the present time, it is to be hoped that in a few years more improvements will be effected than in the hundreds of years that have elapsed since Appius Claudius was Censor of Rome. It is scarcely too much to expect that Garibaldi may guide the ploughshare through the same fields which were cultivated by his great prototype, Cincinnatus.*

THE PALACE OF ESARHADDON AT NIMROOD.

IN vol. iii., pages 111—124, of "Records of the Past," recently published by Samuel Bagster & Sons, one of the subjects is the second inscription of Esarhaddon, translated by Mr. H. F. Talbot, F.R.S. It is written in vertical columns on a hexagonal prism of baked clay, and was found near Nineveh on the mound of Nebbi Yunus (Prophet Jonah), and is now in the British Museum.

In the columns v. and vi. are found particulars relating to the Palace of Esarhaddon, which are interesting to architects and all connected with building:—

"I caused crowds of *captives* to work in fetters in making bricks. That small palace I pulled down the whole of it. Much earth in baskets I brought away, and threw it upon that spot; and with stones of great size I completed the mound.

I assembled 22 kings of the land of Syria and of the sea-coast and the islands, all of them, and I passed them in review: great beams and rafters of *abimi* wood, cedar, and cypress from the mountains of Sirar and Lebanon, divine images, basreliefs, stone *ilu*, slabs of *granite* and *alabaster*, and of various other stones from the mountain quarries the place of their origin, for the adornment of my palace, with labour and difficulty unto Nineveh they brought along with them.

In a fortunate month, and on a holyday upon that mound, great palaces for the residence of my Majesty I began to build. A great building of 95 measures in length, and 31 in breadth, which, in the days of the kings, my fathers, who went before me, none ever made, I made with beams of lofty cedar-trees. I laid its roof. Doors of *cypress*, whose wood is excellent, with cunning work of copper and silver I inlaid, and fitted them to the gates. Bulls and lions carved in stone, which, with their majestic mien, deter wicked enemies from approaching, the guardians of the footsteps, the saviours of the path of the king, who constructed them, right and left I placed them at the gates. A palace of stone and cedar-wood of well-contrived dimensions, for the repose of my majesty artificially I made. Lionesses of bronze, painted on the *hither* side and before and behind, on *sculptured bases* I placed within it.

Of fine cedar-wood and *ebony* I made the ceilings of the apartments. The whole of that palace of *veneered* slabs of ivory and *alabaster* I embellished; and I embroidered its tapestries; with flat roofs, like a floor of lead, I covered the whole building, and with plates of pure silver and bright copper I lined its interior.

The mighty deeds of Ashur, my lord, which in hostile lands he had done, by the skill of sculptors I erected within it. Cedars, like those of the land of Khamana, which all other trees and shrubs excel, I planted around it. Its courts greatly I enlarged, its stalls very much I improved for the stabling of horses within it. Wells I skilfully made, and I covered them properly. That great building from its foundation to its summit I built and I finished. I filled with beauties the great palace of my Empire, and I called it 'The Palace which rivals the World.'"

The words in italics are approximate translations, and possibly many other terms in the present state of our imperfect knowledge of the language may be equally conjectural, but the renderings of the erudite decypherer merit the utmost consideration, and are doubtless sufficiently near to afford us an accurate idea of the original description. T. L. D.

PARLIAMENTARY "NOTICES OF MOTION."

THE formidable array of paragraphs under the above heading in last Saturday's papers, all commencing "That on Monday he would ask leave," or in similar phrase, was led off by a notice of Mr. Cross's to bring in a Bill "for facilitating the improvement of the dwellings of the working-classes in large towns." This has already been laid before the public broadly, and is alluded to elsewhere in our columns.

Subjects interesting to readers of the *Builder* are touched upon in other of these advanced pickets of Parliamentary work. Mr. Sclater-Booth gave notice for leave to bring in a Bill "to consolidate and amend the Acts relating to Public Health in England," a proposition which at least leaves a wide margin for interpretation, and seems to hint at a general cleansing of we know not what extent of Augæan stables. In a more restricted sphere of operations our sanitary baronet, Sir William Fraser, gave notice of a resolution to the effect that "the condition of the metropolis in regard to paving, lighting, and cleansing, calls for legislation." The condition of the street-cleansing department, which leaves us for a decent crossing to the efforts of the lad who solicits your penny at every street-turn (and who, by the way, seems to sweep as diligently and anxiously on dry days as on muddy ones) is certainly not creditable. The crossing-sweeper is really a benefit to society in one sense, but for want of organisation and official recognition is only a nuisance in another sense. The man deserves his coppers for doing for us what there is no one else to do at present; but who can, in the most charitable mood, and with the largest reserve of small change, go to the trouble of continually administering such a dose at even half the crossings he passes? If it were so, indeed, these sweepers would be overpaid for their labour; which they are stated to be now, though we rather doubt it. But it is high time that some more systematic street-cleaning should be instituted, and in regard to this we hope that the drawings and models for sanitary apparatus of this nature, sent over by the French Government to the last International Exhibition, have not been lost sight of as suggestions. The paving is a more difficult question. In regard to cleanliness and quiet, there can be little doubt that the asphalte has the best of it so far; but we do think it a serious responsibility to continue and extend a system of paving which in wet or otherwise slippery weather, is absolutely cruel to the unfortunate horses, especially those which have to drag the over-heavy loads of our omnibuses. We have seen Gracechurch-street and Fenchurch-street on such days really reminding one of a slaughter-house or a knacker's yard—one unhappy animal after another prostrate on the roadway. To case horses' feet with iron pattens and then expect them to hold their ground on such a surface, is as absurd as it is cruel; and the ordinary process of "roughing" used for frost will not apply for asphalte, as the points do not penetrate it, and, if they did, would soon ruin the surface. There is talk of an anti-slipping shoe for the horses; but we have not heard of its development into anything practicable as yet. Unless something of the kind can be invented, the consideration of the "dumb driven cattle" ought certainly to form part of the question,—What pavements are to be adopted in future?

Colonel Beresford comes forward with a notice to bring in a Bill for improving the supply of water to the metropolis: a problem which is showing symptoms of becoming a very serious and difficult one, in view of the continual increase of the demand; and Mr. O. Morgan proposes to bring in a Bill "to amend the burial laws." Is this an avant-courier of cremation? Mr. Bruen is anxious "for the improvement of the dwellings of agricultural labourers in Ireland," which in plain English (or Irish) must be a Bill to compel landlords to do their duty better, as it is in the main a matter which chiefly rests with them. Apparently analogous to this is a proposal of Mr. Pease to "inquire into the position of tenants

* For General Garibaldi's scheme for diverting the course of the Tiber and improving the Campagna 100,000,000,000 francs are needed. The shares are to be 100 francs each. The King promised to use his influence in order to induce the Government to guarrantee 5 per cent. His Majesty heads the share-list. Garibaldi is said to be anxious to put himself in communication with engineers, especially English engineers. He has addressed a circular to the English newspapers, in which he says,—"I hope that the English people will support the project for the diversion of the Tiber and the improvement of the Agro Romano. I propose that the shares should be 100 lire each, with a guarantee from the Italian Government."

under the Dean and Chapter of Durham." Sir T. Chambers gave notice on Monday evening to ask what steps were to be taken to restore the Macclesfield Bridge in the Regent's Park, destroyed by the recent explosion. When we last saw the place the Doric columns half projecting out of the *débris* on the bank had a picturesque and almost poetic effect; but we have enjoyed this long enough, and the road will be better than a spectacle of ruin. The delay is causing great inconvenience.

Besides modern sanitary and constructive subjects, those in which our ancestors were formerly concerned are not overlooked; for Sir John Lubbock announces his intention again to bring in a Bill "for the better preservation of ancient national monuments." If it be the case, as stated in the daily papers, that the notice of this Bill was received with "a laugh," we take leave to say that it was the laughter of blockheads. The preservation of tangible records of the doings of past ages is a matter of the greatest importance and interest to students of history, and to all who recognise the fact that their country and their race have a "past" at all: and in many cases such relics and records are at present in the hands of those who ignore their value, and care little about sweeping them away, without note or comment, for a mere whim. In framing his previous Bill, Sir John Lubbock was at great pains to procure a schedule of objects worth preserving in every district of the country, and to frame conditions which would provide for their preservation without encroaching on the rights of property; and he received very poor thanks for his pains. We hope his new Bill on the subject will receive the support which it is pretty certain to deserve.

Among the notices of new Bills in regard to metropolitan government we should have been glad to see one in regard to the street nuisances and noises of London, a subject to which we have several times drawn attention. The barrel-organ nuisance has reached a development in the capital which is unknown in any other large town in England, so far as we are aware; and the presence everywhere of these idle vagabonds, who live by making themselves a nuisance, is becoming a plague to which those which Pharaoh suffered from were trivial. We will mention a single case which came to our knowledge not long ago, where a member of a family was dying from a lingering and painful illness, and every violent noise was something unbearable; when not only was the house besieged every day by these pests, who had to be driven from the door continually, not without insolence on their part, but the next-door "neighbours," with the petty obstinacy which is too often excited in such cases, insisted on their right to keep these instruments of torture before their own door, though perfectly aware of the special reason for sending them out of hearing; and relief could eventually only be obtained by the decisive interposition of the landlord. We believe the selfish offenders in this case were completely within the law, and we beg to ask whether that also is not a state of things that "calls for legislation," and what member will immortalise himself this session by a "notice of motion" to bring it about?

THE RESULT OF OVERDOING IT.

A CORRESPONDENT of the *Daily News*, giving an account of the first *bal d'opéra* in the new house at Paris, states that the over-gorgeousness of the decoration has already palled upon the frequenters of the house, and the first interest and astonishment at its elaboration has given place to a feeling of dissatisfaction with a place which presents no repose anywhere for the eye. "A very clever woman," in confessing to the correspondent of the *News* a weariness of the gilding and polychrome statuary, said, "Just imagine with what eyes you would regard a 9th of November procession, if you were condemned to see it twice a week for a whole season. I feel that to enjoy music in this place we should be blinded, like the canary-birds in gilded cages." We are not at all surprised to hear of such a feeling. The production of effect by an overflowing lavishness of colour and decoration (so-called) has a tendency soon to pall on the taste in any case; and its introduction in the auditorium of a theatre is likely, besides, to have the result of weakening the effect of the scenery and the stage *ensemble* and distracting attention therefrom. In a short note we gave some time since of the new lyric theatre being built under Wagner's direction at Bayreuth, accompanied by a block section, it was noticed that the reformer of opera in Germany had insisted on the auditorium being kept plain and unassuming in character, in order that all attention might be directed to the stage. Hardly a question can be raised but that this is the true and rational method of looking at it, if the theatre is really intended for the display of dramatic and scenic art. Our own theatres are often too pronounced in the decoration of the auditorium; but in the great house at Paris ornament seems to have run riot, and in consequence disappointment is already being felt at the disproportionate result of all this expenditure of time and money. We fear the story of the French Opera House is but too like that of the Government under which it was projected, and that each has suffered under the attempt to be showy and brilliant at all costs.

NEW BATHS AND WASHHOUSES AT LIVERPOOL.

THE Corporation of Liverpool have agreed to add to the existing number of baths and washhouses in the different districts within the borough, and at a meeting of the council held last week a discussion of much interest took place on the subject. The baths committee submitted a recommendation that certain plans for baths to be erected in Westminster-road, at the north end of the town, at an estimated expense of 16,000l., be approved, and that tenders for the erection of the baths be at once invited. This gave rise to a discussion, in the course of which the claims of Windsor (a district in the West Derby division of the borough) for baths, were strongly put forward, and it was urged by Mr. Samuelson, a member of the council, that no further delay should take place in the erection of baths and washhouses in the last-named portion of the town. Mr. Robertson Gladstone (brother of the ex-Premier) endorsed the statements of Mr. Samuelson, and remarked that he really believed it was useless building schools, and trying to educate the people in the various parts of the town, without they at the same time gave the people a copious supply of water. He added that if there was a part of the town that required enlightenment and some assistance towards turning wretchedness and misery into something very much better, it was that particular district of Windsor. After some discussion, the council unanimously agreed to erect the baths in Westminster-road, at an expense of 16,000l., as recommended by the committee, and they also passed a further resolution instructing the baths committee, without further delay, to proceed with the erection of baths and washhouses in the Windsor district of the borough, and that application be made to the Lords of the Treasury for permission to borrow such further sums as might be requisite for the purpose. The plans for these last-named baths are to be submitted to the council at their next meeting.

PORTLAND CEMENT.

AT the last meeeting of the Institution of Mechanical Engineers, held in the Midland Institute, Birmingham, a paper was read "On the Manufacture and Testing of Portland Cement and the Machinery used in its Production," by Mr. Henry Faija, of London. Portland cement, he said, consists of carbonate of lime mixed with silica, iron, and alumina, and is made by mixing chalk with mud obtained from the banks of the Thames and Medway, in the proportion of about four of chalk to one of mud. In some cases gault clay is used instead of mud. The materials are mixed in "wash-mills," and the result, called "slurry," is run into large reservoirs or "backs," and allowed to settle; it is then dried and calcined at a high temperature, and afterwards ground between millstones to the requisite fineness. The wash-mill is a large shallow circular pan, built of brick, into which the barrow-loads of chalk and mud or clay are tipped; and, a supply of water being added, the whole is stirred and thoroughly mixed by a set of revolving arms, carried upon a central vertical shaft. The liquid material flowing from the wash-mill is raised by an elevator, or pump, and delivered into a reservoir, in which it is allowed to settle; the water is then drawn off by a sluice, and the reservoir re-filled from the wash-mill. This process is repeated until the reservoir is full of the deposit, or "slurry," which is then dug out and laid on a drying-floor of fire-clay tiles or iron plates, heated by fines underneath, and covered with a light roof. The dried slurry is taken to the kilns to be burned, being charged into them with alternate layers of coke. When sufficiently burned, the clinker is allowed to cool, and is then drawn out at the bottom of the kiln, and taken to the crushing-rollers, by which it is broken up into small pieces preparatory to being ground by the millstones. Having passed through the millstones, the cement is laid out on the warehouse-floor and allowed to cool, being occasionally turned over; this mixes the different day's work, and gives uniformity to the cement produced, and also allows any particles of lime still unslaked to slake by exposure to the air.

General Quality.—The quality of Portland cement is usually determined by its colour and its weight in combination with its fineness, besides which it is required to withstand a certain tensile strain when made into a "briquette" or testing-block, and to show no signs of either expansion or contraction in setting. Though at present considerable diversity of opinion exists as to what the tests for fineness and tensile strength should be, still, when it is remembered that the cement should be of one uniform good quality, capable of being gauged with two or three, or even more, times its bulk of sand for use, and that when the weight and fineness are in such proportions as to give a good carrying capacity for sand, the tensile strength is as a matter of fact assured, it then becomes possible to arrange such tests as will meet most requirements.

Tests.—In colour Portland cement should be of a dull bluish grey, and should have a clear, sharp, almost floury feel in the hand; a coarse gritty feel denotes coarse grinding, and the finer a cement is ground the more it approaches to an impalpable powder. It should weigh from 112 lb. to 118 lb. per striked bushel, and should be so fine that 80 per cent. will pass through a sieve of 2,500 meshes to the square inch; when moulded into a briquette and placed in water for seven days, it should then be capable of resisting a tensile strain of from 300 lb. to 400 lb. per square inch, and should during the process of setting show neither expansion nor contraction.

Weight and Fineness.—A light cement,—i.e., one weighing from 100 lb. to 108 lb. per bushel,—is invariably a weak one, though it may be of the requisite fineness; at the same time, a heavy cement if coarsely ground is also weak, and will have no carrying capacity for sand. As the more the clinker is burned the harder and heavier it becomes, and therefore more difficult to grind in the millstones, the heavy cements to be met with are almost invariably coarse ones; and as an under-burned cement, from its softness, will be ground fine enough, but will be deficient in weight, it will be seen that the weight, unless taken in conjunction with the fineness, is no test as to the quality of the cement. It will therefore be found advisable to adopt a medium weight,—namely, from 112 lb. to 118 lb. to the striked bushel, as with that a finely-ground cement may be secured, and one that will suit most engineering and building operations.

Tensile Strength.—For the strength test a briquette is usually adopted, the breaking area or neck being 2·25 square inches. The cement should be gauged with as little water as possible in a mould of the requisite shape, and in 24 hours it should have set sufficiently to be removed from the mould and placed in a tank of water, where it should remain for seven days, and at the end of that time be tested, when it should be capable of resisting a tensile strain of from 300 lb. to 400 lb. per square inch of breaking area. This, though a universally adopted test, is in the writer's opinion open to objection on the ground that the cement is never used in a similar manner, and is in point of fact never, except in rare instances, subject to the strain of direct tension, though as a comparison between the strength of different cements it may be of use; still he thinks that some other test should be adopted which would be more in keeping with the manner in which the cement is ultimately to be used.

Expansion.—This defect, due to the cement being too hot, may be traced to various causes. It is to be met with most frequently in very heavy cements, from the fact of their containing in their original crude form a larger proportion of lime, which does not get thoroughly done away with in the process of burning in the kilns, consequently there remain small particles unslaked, which slake when the cement is gauged with the water for use; these eventually blow in the work, causing a general expansion. An

under-burned cement, or one that is used too soon after it has left the mill and before it has had time to cool, will show the same defect. The most simple test to detect expansion in a cement is by making small pats with a trowel, about 3 in. or 4 in. square, and placing them in water when set sufficiently, where they should remain a few days. The cement if good will show no alteration in form; but any cracks showing on the edges, or other deviations from the original shape of the pats, indicate that the cement is of this expansive nature, and therefore not to be trusted. But because a cement will not stand this test, it is not, in all cases, to be condemned as useless, as its expansive or blowing property may be attributable simply to the cement being used too soon after leaving the mill; in which case a proper process of cooling, by laying it in a thin layer on a dry floor for a short time before using it, will correct the defect.

Contraction.—This defect, due to the cement being over-clayed, is so seldom met with that it is needless to dilate upon it, beyond saying that it may be detected by a similar test to that for expansion.

In the discussion which followed, the advisability of adopting continuous kilns instead of the intermittent ones mentioned in the paper, as well as using the waste heat from the kilns for heating the drying floor, were considered, and it was decided that the intermittent kiln gave undoubtedly the best result, though with a greater cost of fuel; and that, except under special conditions respecting the site, the waste heat from the kilns could not be advantageously used for heating the drying floor.

CHELSEA SURVEYORSHIP.

WE understand that the vestry of this parish have appointed Mr. G. H. Stayten, C.E., the borough surveyor of Ryde, Isle of Wight, to be their surveyor, at a salary of 500*l.* per annum. There were over thirty candidates for the appointment, including the surveyors of several metropolitan parishes, the borough surveyors of Ramsgate, Margate, Kingston, &c.

THE MARYLEBONE NEW PAROCHIAL OFFICES.

A NEW block of buildings, consisting of a Board-room, and other administrative offices, together with a suite of offices for the registrar, are about to be erected for the Marylebone Union, on a plot of land at the corner of the Marylebone-road and Northumberland-street, adjoining the workhouse. The building has three frontages, the principal elevation being in Northumberland-street. The structure externally is entirely in Portland stone rusticated, the three frontages being in this particular uniform in architectural design. The building consists of one story, on the ground-floor only. The Northumberland street frontage is 117 ft. in length, and 19 ft. in height to the cornice, the south end of the elevation, where the Board-room will be situated, being carried to a height of 25 ft., in order to admit of the apartment being internally lofty. The central portion, which forms the principal entrance to the building, is also carried several feet higher than the general face of the elevation. This part consists of a projecting porch, 18 ft. in width, with two pilasters and columns, on either side, surmounted by a pediment. The doorway inside the columns and pilasters, which is 9 ft. in width, has also columns on each side, supporting an ornamental carved arched heading. There is a range of eight lofty arched windows on the south side of the entrance, and five on the north side, with ornamentally-carved columns and capitals between each window. The Marylebone-road frontage has a length of 38 ft., with a separate entrance to the registrar's offices. The west frontage is uniform in length with the east or Northumberland-street elevation, but not so elaborate in detail.

The principal entrance leads into a vestibule, through which is approached a spacious hall, 16 ft. by 11 ft. A corridor, 6 ft. wide on each side of the hall, is carried the entire length of the building, leading, at the south end, to the general clerks' room, an apartment 37 ft. by 20 ft.; also to the office of the chief clerk's assistant, and likewise to a committee-room for the use of the members of the Board. The Board-room is entered from the extreme end of the corridor. It is a commodious apartment, 44 ft. in length by 25 ft. in width, and is nearly 20 ft. in height from the floor to the ceiling. It will be ornamentally finished and decorated, the walls being divided into panels, with moulded columns between each panel, and surmounted by arches. The ceiling will also be divided into panels, and finished in a similar manner to the mural decorations. The whole of the fittings and furniture of the Board-room will be in mahogany. There is a cloak-room, immediately on the left of the entrance to the Board-room, for the accommodation of the members. At the north end of the building, on the west side of the corridor, there is a waiting-room, and adjoining it is the office of the chief clerk. The registrar's offices are altogether distinct from the other portions of the interior, being situated in that part of the building fronting the Marylebone-road, from which, as we have already stated, there is a separate entrance to them. They contain the general office for registration purposes, a large apartment, 25 ft. by 13 ft., together with the registrar's clerks' office, and a strong-room.

Mr. H. S. Snell is the architect, and Mr. W. Crockett the builder; the amount of his contract (which does not include fittings) being 5,900*l.*

A PLEASED EMPLOYER.

MESSRS. GEORGE TROLLOPE & SONS have recently completed the restoration of a mansion,—Fairlawn, near Tonbridge,—for Mr. Edward Cazalet, under the direction of Messrs. Mann & Saunders, architects. At a cost of several thousand pounds, the contractors may be said to have rebuilt Fairlawn, which is now a mansion of the Queen Anne style of architecture. The saloon which leads to the principal staircase is elaborately decorated, and leading from that is the billiard-room, appropriately furnished and decorated. From the staircase the hall leads to the drawing-rooms, large and small, and the library. In the large oval panel of the ceiling in the drawing-rooms, the genii of the four seasons, link themselves into a chain by their fruits and flowers under a cloud-flecked sky. Above each of the doors are subjects of amorini, painted on a gold ground, whilst the smaller cammei in the panels of the doors beneath bear reference to the subjects under which they are placed. In the dining-room is some fine old wood carving, rescued from the paint by which it was imbedded, and the decorations are elaborate.

The point we have to speak of, however, is this: that Mr. Cazalet, when all was done and the accounts paid, was so well pleased that on his return from abroad he instructed Messrs. Trollope to provide a dinner for the men. This took place at the "Criterion," on Saturday in last week, when about 250 dined in the great dining-saloon, under the presidency of Mr. R. L. Trollope, the member of the firm who conducted the work. The vice-chairs were occupied by the heads of the several departments, and everything went off most agreeably.

THE METROPOLITAN BOARD OF WORKS.

MR. GOOD'S CASE.

THE matter, so far as Mr. Good's observations on the committee are concerned, ended as we concluded it would. At the meeting last week, a letter was read from Mr. Good.

Mr. E. R. Cook then proposed the following resolution:—"That Mr. Good, district surveyor of Bow and Poplar, having, on Friday last, stated to the Board his willingness to withdraw, unconditionally, all such expressions as reflect upon the chairman and members of the Building Act Committee as were contained in the letter which he had addressed to them with regard to his proceedings in connexion with the houses which fell in Addington-road, Bow, the resolution passed by the Board on the 22nd ult., directing that Mr. Good be called before the Board, and reprimanded by the chairman, for having addressed to the Board a letter reflecting upon the Building Act Committee and their chairman, be rescinded."

Mr. Fowler, chairman of the Building Act Committee, seconded the motion, which, on being put, was carried unanimously.

It now remains for the Board to withdraw their assertion that Mr. Good had not done his duty.

THE "QUARTERLY REVIEW" AND SIR GILBERT SCOTT.

SIR,—Sir Gilbert Scott in his reply evades the point at issue, and has left his curious misstatement uncorrected and unjustified. In his speech at the Architects' Institute, he imputed to the "Quarterly Reviewer" a ridiculous, and, elsewhere probably, an incredible, mistake about the date and the designer of the altar-screen at Westminster, which screen was not in any way referred to in the *Review*, and which, moreover, was, as every school-girl knows, originally designed and made 400 years ago.

Instead of candidly retracting his assertion that I "thought he had designed" the screen, Sir Gilbert Scott would raise some new discussion on the notice of the reredos at the Abbey.

As to this matter, the suggestion in Sir Gilbert Scott's reply, "that the object designated by the Reviewer as the *reredos*, and by the President as the *altar-screen*, is one and the same," is palpably absurd. The altar-screen, an object perfectly well known by sight and name, extends entirely across the *east* end of the choir; the *reredos* or *retabulum* was not a screen, but a mosaic picture, with a temporary sketch enframing it, placed, as its name denotes, immediately behind the altar-*table*; and it was thus referred to:—"The choir-screen" (at the *west* end of the choir), "reredos, pulpit, and communion-table, are particularly weak and jejune specimens of the dull clerkmanship that architects of eminence live to supply." Here is no mention of the altar-screen, nor of the Reviewer's "thought" of its designer, nor of Sir G. Scott, nor of his designing any of these "objects." They are described as specimens of "clerkmanship," not of design, which is a greatly different thing, and are said to be "supplied by architects of eminence" (in the plural), not by any individual. There is, in fact, no personal reference whatever. The choir-screen was supposed to have been supplied by Mr. Blore, an architect of eminence, and the communion-table by another gentleman of the same class, whose name could not have added any value to a purely architectural and impersonal discussion. As to the reredos or retabulum, that new "object" seemed to be considerably above, just as the pulpit was below, Sir Gilbert Scott's accustomed line of manufacture, and was not, even in "thought" attributed to him. The individual purveyors of these ecclesiastical "objects" are not so well known as they may possibly suppose, or as in fact they well deserve to be.

Sir Gilbert Scott could therefore "find out" nothing of the writer's "thought" about the possible designer of the reredos or the altar-screen from any individual or nominal or even mental reference. The short description of the "object" is the only thing remaining that could possibly have led "the President" astray. Yet it would seem incredible and strange that when a monument is said to be "particularly dull, weak, and jejune," Sir Gilbert Scott should by this fact alone "find out" that he is "thought to have designed it."

THE QUARTERLY REVIEWER.

THE SANITARY CONDITION OF DISS.

ON the 29th ult., Major Hector Tulloch, Government Inspector, visited Diss, for the purpose of sanctioning the loan of 1,000*l.* for works of sewerage.

The Inspector, in taking his position, applied for plans, specifications, and estimates of the work which had been carried out. Plans and certain specifications were submitted, but no estimates, of which he complained, and said there was nothing to show the depth of excavation, length of drainage, or anything to guide him as to whether the work had been fairly done or not; it might be very cheap or very dear.

The Surveyor replied that it was not customary for him to furnish estimates, as the contractors worked them out themselves. He recommended the Board to accept the contract of Mr. Dennis, who executed the work, because he considered it very fair.

The Inspector said he could not, with the particulars furnished him, recommend Government to lend the money. He would visit the town on a future day, the time of which should be advertised, so that the ratepayers might have an opportunity of attending if they pleased.

After the meeting, Major Tulloch inspected the filters and tanks which have recently been constructed to receive the sewage, and pronounced the filters perfectly useless, as the soluble matter went into the river.

SCHOOL BOARD SCHOOLS FOR LONDON.

ANOTHER school has been opened by the Board during the past week. It is situated in Great Tower-street, Seven Dials, and forms a handsome block of buildings; a double arcade in the front elevation, and the central turret being treated in an effective manner. It contains four stories, with an extensive basement under, which is shut off entirely from the schools. The ground-floor forms a large covered play-ground, and contains the committee-room and various approaches. The infants are placed on the first, girls on the second, and boys on the top floor, each having a school and three class-rooms, with cloak-rooms, and sanitary conveniences placed in the turret, and on half-space landings. The number of children will be 780, and the cost of building 8,775*l.*, the contractor being Mr. John High, of Lower Clapton. The total cost per head, including purchase of land, &c., was 29*l.* 18s. 1d. The clerk of works was Mr. Tester. The building was erected from the designs of the Board architect, Mr. E. R. Robson. The cost was larger than usual, partly because the school is raised on arches, so as to afford a covered play-ground, and that a range of vaults had to be constructed underneath.

Deptford.—The school in Duke-street, mentioned in our last, was built from the design of the Board architect; Mr. Hobson was the contractor, not the architect.

SCHOOL BOARD SCHOOLS.

Huddersfield.—The new Board Schools erected for the Huddersfield School Board at Oaks, Lindley, and opened on the 11th ult., present a college-like appearance. The ground, containing 8,385 square yards, was purchased by the Board for 2,205*l.* 18s. 6d. Accommodation is provided for 856 children. The style may be classed as domestic Gothic, freely treated. The elevation of the façade is 120 ft. long. All the school buildings are one story in height, above ground. Twenty-one feet from the dexter side, and adjoining the lavatory, is the clock and tower entrance. The tower is 70 ft. high to top of finial, and 11 ft. square. The lower part of the tower porch is architecturally treated, having chamfered, sunk, and moulded jambs, with quoined buttress pilasters on the face of each angle. These are in three stages. The central one is wrought into a trefoil sunk gablet and roll mouldings. Elliptical pointed arches span the jambs, which have arched drip-stone mouldings and boss terminations. The next stage of the tower is built of solid ashlar masonry. On three sides there is a three-light trefoil arched window. The third stage contains the clock, with four dials and bell, costing 92*l.* 10s. Upon the bed of ashlar are fixed strong angle timber framed bindings, 24 ft. high, cross-braced, tied and bolted to the solid work of the lower stage of the tower. A panelled chamfered wood framing, filled with diagonal V-jointed boarding and blocks to receive the gutters, forms an outer base for the spire roof, which is covered with Westmoreland slate; and the whole is topped by a wrought-iron finial, indicating the four cardinal points. A cottage is built within the grounds. The whole of the buildings have been designed and superintended by Mr. Charles Fowler, of Leeds and Huddersfield, architect. The contractors for the works were:—Masonry, Messrs. Dyson Bros., Lindley, 4,489*l.*; joiner's work, Mr. James Christie, Huddersfield, 1,519*l.*; plumber and glazier, Messrs. Taylor & Co., Huddersfield, 359*l.*; plasterers, Messrs. Longbottom & Sons, Huddersfield, 161*l.*; slaters, Messrs. Pycock & Sons, Leeds, 500*l.*; ventilation, Messrs. Lawton & Hainsworth, Halifax, 138*l.* 4s.; painter, Mr. W. T. Earnshaw, Lindley, 95*l.*; Mr. James Brook, Huddersfield, fitted up the warming apparatus, the eaves, spouting, and other ironwork, 537*l.* The school fittings were estimated to cost 400*l.* The whole of the works, including site and fittings, will cost 11,142*l.*

Stoke.—At the monthly meeting of this Board on Wednesday, the 3rd inst., at the offices of the Clerk (Mr. W. W. Neale), Hay-lane, Coventry, tenders for the erection of Board Schools according to the plans prepared by Mr. G. Taylor were opened by the Chairman as follows:

Wormwood	£1,486 0 0
Hayward, jun.	1,300 0 0
Foster	1,590 0 0
Frith	1,360 0 0
Mayo	1,190 0 0

Mr. Mayo's tender was accepted.

Bawburgh.—At a meeting on the 5th inst. of the Bawburgh School Board, the following tenders were received:—

Read	£1,100 0 0
Hipperson	1,038 12 6
Wilkin	978 0 0
Youngs	975 0 0
Withers	932 0 0
Davy (accepted conditionally)	888 3 6

Birmingham.—The Sites and Buildings Committee of the Birmingham School Board on the 29th ult. reported that tenders for the erection of the schools in Smith-street have been received, and recommended that the one sent in by Messrs. W. & J. Webb, amounting to 8,060*l.*, be accepted. The report was adopted.

SCHOOL BUILDING IN SCOTLAND.

THE undermentioned new school-houses, with teachers' residences, are proposed to be erected in the burgh of Wick and for the Landward parish, under the Education Act:—

At the Pulteneytown Academy, the number of children proposed to be accommodated is 380, at a cost of 400*l.*

To the South Burgh School two wings will be added. The area is calculated for 260 pupils, the extra space giving three class-rooms, two of which are 19 ft. by 18 ft. each; the "infant school" being 38 ft. by 16 ft. The ground, including school and separate playgrounds, occupies half an acre. The estimated cost is 800*l.*

The Burgh School is designed for 300 children, and is situated at Whitehouse. The plan embraces a Gothic structure, having a front elevation, with a Gothic window and bell-tower. This building consists of a square block in front, with two end wings receding to the back. The internal arrangements embrace a large mixed school, 67 ft. by 18 ft. broad, and 16 ft. 6 in. high. The cost is estimated at 1,500*l.*

The Landward Schools of Bilbster, Tannach, Stirkoke, and Whaligoe, are designed for 80 pupils. The dimensions of each of these schools are somewhat similar, and the estimated cost averages 1,000*l.* each, including the teachers' houses.

The Kilmster School, which will occupy half an acre of ground, is designed for 160 pupils. The mixed school is 47 ft. by 18 ft.; the infant school, 20 ft. by 17 ft.; and two smaller rooms, 12 ft. by 15 ft. The estimated cost of this school and teacher's residence is 1,480*l.*

The Thrumster School is similar in form to the Kilmster one. It is designed for 200 children, and has a mixed school, two class-rooms, an infant school, and teacher's residence. The cost will be about 1,500*l.*

An addition of a wing will be made to Staxigoe School, giving a room 34 ft. by 17 ft., available for 120 pupils. The estimated expense is about 600*l.* The old society house will be converted into a teacher's residence.

In the plan of the West Banks School the arrangement is for 350 children, with teachers' residences. Exclusive of the infants' school there are four class-rooms, the largest 73 ft. by 18 ft.; the infants' school-room is 33 ft. by 25 ft. 6 in.; and a teacher's residence. The ground occupied is half an acre. The estimated cost is about 2,000*l.*

Mr. Brims, the architect, has at present in hand, in addition to the foregoing, at Keiss, two schools, at a cost of 1,700*l.*; at Canisby (additions), 550*l.*; at Watten, 1,750*l.*; and at Bower, 1,000*l.*

The Dundee School Board have also the following buildings either in progress or about to be commenced:—

The Ancrum-road School, which is intended to supply the requirements of Lochee, is situated in a plot of ground bounded by Ancrum-road on the south, and Gibb's-lane (leading to Lochee) on the east and north, and measures 1 acre 26 poles in extent. In plan the building, which is Gothic in style, is almost that of a double I, and is divided into two departments—junior and senior. The principal elevation fronts Ancrum-road, and is relieved by two projecting gables, each having a spacious three-light window, with moulding on edge of stylobats and segment heads, over which label mouldings, springing from moulded pendants or drops, are carried. The portion between the two gables is filled in with four large windows, having moulded edges and cusped corners at the tops. The wallheads are finished with a corbel course, on the top of which runs a plain plinth surmounted with a moulded roan, which forms a moulded coping or cornice. The accepted tenders, exclusive of cost of heating and furniture, amount to 3,353*l.*

The site of the school at Dudhope, at the top of St. Mary-street, consists of 122 poles, exclusive of streets. In plan this school is a reproduction of that of Ancrum-road, while the elevations are also much the same, with the exception that the details are of a slightly plainer description. The accepted tenders for this school, which include enclosing wall round the whole four sides of the site, amount to 3,924*l.* 11s. 9d.

The site for the Hill-street School is at the top of Hilltown, and in extent consists of 77 poles. In plan this school is also a representation of those for Ancrum-road and Dudhope, the only difference being in the treatment of the elevation of the senior department fronting Strathmartine-road, which consists of one projecting gable in which is a large triple window, with cusped heads and label mouldings over; an ornamental iron finial forming the termination of the apex of the gable. A small gable is thrown over the central portion of this front, in which is also placed a three-light window, thus breaking up what might otherwise have been a monotonous straight line. The amount of the accepted tenders for this building, including the cost of enclosing the walls round the entire site, is 3,523*l.* 16s. Each school affords accommodation for 529 scholars.

At the Brown-street School extensive alterations and additions have been made. The principal addition is a large wing projecting from the central portion of the old school. The ground-floor consists of a room, 38 ft. by 24 ft. 6 in., in the north-east corner of which is the new entrance-porch, from which access is gained to the old and new school-rooms, and to a retiring-room for the master. The additions and alterations will accommodate 250 additional scholars, and the cost of the work when completed will be about 1,320*l.*

Hawkhill School is the first new two-story school proposed to be erected by the Board. The site is at the corner of Hawkhill and Peddie streets, and is in extent about 71 poles. The plan of the school consists of two wings, extending north and south, having commodious class-rooms, lavatories, retiring-rooms for master and mistress, and separate stairs for boys and girls. When finished, the buildings will accommodate 760 pupils. The cost of carrying out the work will be about 5,745*l.* 18s.

The Female Model Lodging-house in King-street having been purchased by the Board, extensive alterations and improvements are proposed to render it a commodious school. The site is in extent about 50 poles. The plans of the contemplated improvements are in an advanced state, and it is expected that the works will be shortly commenced. The estimated cost of the alterations is 1,100*l.*

At the Balfour-street school new offices have been added, and retiring-rooms for the master and mistress. The walls of the schoolrooms have been painted in oil, with stencil designs running along the top of wall linings and under the plaster cornices, and the woodwork grained in imitation oak. The cost of the new buildings will amount to about 6*l.* 16s. per scholar.

The plans for the above schools have been prepared by Mr. David MacLaren, of Messrs. Ireland & MacLaren, architects, Murrygate, Dundee; and the works are being carried out under his superintendence. Mr. MacLaren has also been commissioned to erect school buildings for the Boards of Brechin and Kinnell on the basis of the Dundee plans.

Sanitary Condition of Stafford.—Mr. W. E. Clendinnen, medical officer, at the meeting of the town council, on the 5th inst., reported that in a house-to-house visitation he found a "wretched state of things. The ashpits were in many instances full to overflowing, and the inspector informed him the work was so much in arrear that this state of things would have to remain for some time. I found, in the great majority of cases, the pump and the closet in close proximity, and I firmly believe that to this fact is due the great impurity of the water, and that it will take some time to effect a sufficient improvement in the water, so that it will be pronounced good and wholesome." To stop the continual percolations from these sources of impurity, the town council have been strongly recommended to at once adopt the Rochdale system of tub removal, or the cinder-sifting system, or both; to establish a depôt; and to organise the proper machinery for successfully carrying the system into effect.

CHINA, AND ITS ARTISTIC CAPABILITIES.

IT has been observed by De Quincy, that a sort of magic charm lies in the mere names of all world famous things, as in the names of the rivers of the world,—the Ganges or the Euphrates! They ring in the world's ear, and take us into the past of things, wherein distance and remoteness do so much. If this be true, it is surely fully exemplified in the more simple phrase, Celestial Empire, in the name of "Child of the Ocean," the river Yang-tse-Kiang,—Nankin city, and a host of others appertaining to that, even now, mysterious empire. It may be doubted, indeed, whether in the world there exists a place more enigmatical than China, or one more difficult to "account" for. It is not in a savage state, nor is it in what is here called in this Western world, a civilised state, vague as that term is, and of such uncertain signification. We suppose that it must be classed with the Eastern nations generally, and come under the term "barbaric." It is difficult to say which of its two states, its old or its modern condition, is the most to be wondered at. Its history would seem to date from a time far beyond, not only human record, but human memory, and to be changed in essentials but little; a country, indeed, without what is here called "progress." It is in reality unique in very many ways, is this antique Chinese Empire, and the attention likely to be given to it, consequent on the death of its youthful emperor, may make a few remarks on it, and on the special art which it has always and does now produce welcome, at present. Very much might be said on so vast a theme, but a few thoughts only, however few, may be better than nothing.

We do not dare to speculate on that strange fact,—the primitive isolation of the old empires of the world. Time must have been when this vast extent of the earth's surface was unoccupied, and when first occupied, however sparely, its people must have migrated from a probably distant source. How did the language, so distinct from others, come into being, and how did the peculiar art of China first come into existence, and how grow up? But speculation here would seem to be all but vain. We have nothing to go by; but of the actual and present state of China we may indulge in a thought or two, and, may be, speculate on its future. Its art and its architecture are alike unique and original, and the creation of the mental idiosyncrasies of the Chinese man. We may fairly determine that it is original and unborrowed, and that it is much the same as going to the very source of art, to study attentively so really genuine a specimen of pure and unadulterated art, and to compare it mentally with an equally pure example of, say, Greek art. Greek art, as we all know, is without rival, and the most strenuous efforts of the most highly civilised and enlightened modern man, have been taxed in vain to reproduce it, and, if possible, to copy it. It is unique and *per se*, but not more so than that of the Chinese art, whatever rank that may hold in the scale of art; and the questions then come,—Are Chinese art, and architecture, and painting, and the forms peculiar to Chinese work, worth preserving by the world, or would it be better to supplant them, if that be possible, by other art, and then granting the inherent merits, whatever they may be, of Chinese art, is anything to be got out of it? Can English art be benefited by it in any way, and how so? Is it to be looked at merely?

In any endeavour to analyse the art and architecture of China, whether of the past or present, it must needs be confessed that we are sadly at a loss for sufficient *bonâ fide* evidence. We do not here mean that there is not enough of Chinese art-works to be found scattered about, but that the vast majority of the specimens of it are of very inferior value indeed. They are, if truth must be told, almost always "manufactured" art,—the results, as so much of art is here, of the system of art-manufacture. The Chinese are a quick-witted and imitative people, and very soon spy out—Cobden used to say, quicker than almost any people in the world—a new trade opening, and a new way to do business. They soon found out, too, what it is that the "foreigner" will be satisfied with; and the result is, and this is a fact not everywhere known, that there is what may be termed a Chinese manufactory expressly for the European and American markets. We have taken some little pains at divers times to come at this, and have gone through a considerable quantity of Chinese imported "goods," in the hope of getting at last at some genuine Chinese work, by the hand of the Chinese artist-workman, and made for his own country, and not for export. Of course, there is in Chinese work, as in all other work, an infinite difference in different specimens of it, consequent on the individualities, and skill, and power of each artist-workman. But we are here speaking specially of the *bonâ fide* character of the work, and of the absence in it of the special art-manufacturing processes. We wish we could make this quite plain and evident. It is very difficult to do so without the power of referring to a special collection; but yet, in spite of this disadvantage, a little may be done.

We have before us a specimen—and there are a few at South Kensington—of so-called Nankin ware, by a native artist, and it would be difficult to find an object more thoroughly characteristic or instructive in all ways. It, like many others occasionally seen in collections, is not perfect work, but it is Chinese, and that is the first thing needed; and then it is not a work of mere manufacture, but the work of the draughtsman himself, from first to last. The "dragon" form stretches across in quaint fashion the whole of the plate, and the tail is to be found at the back of it; the mere turning of the plate not having in the least degree confused the mind or the hand of the executive artist. It is wholly executed in the well-known, though so apparently impossible to imitate, "dark blue," on a dull white ground. It evidences that skill in draughtsmanship and in dragon-drawing is not confined to those who have received Academy teaching. We cite it to show how universal is the power of rendering forms, and of invention, and how great is, and must needs be, the interest to be found in original specimens of this drawing, and painting, and inventive power. It is not confined to one special race, or country, or time, but it is a common human gift. All countries are capable more or less perfectly of producing such for themselves; and it is of surpassing interest when you do come across fair and honest specimens of them. Chinese art is most surely second to none in point of individuality of interest and character, and it may well be a question worthy the attention of the powers that be, whether or no, the "improgressive trade" of China, might not be best stimulated by a little more attention to the importation of the *bonâ fide* and true native *art* of it for beauty and instruction's sake. It is worth State attention just now.

We may here again remind the reader that there is in the South Kensington Museum a collection of Chinese art well worth attentive looking at, but still requiring some care while doing so, for it is of a very *mixed* character. It is yet a desideratum, a *bonâ fide* collection of Chinese art, if it be only of ceramic art. It would do much, and be most instructive, and might even with some raise a doubt in the mind as to how far the Chinaman is to be "improved" artistically by European or Western, to adopt that expressive word, teaching and art influences. Surely there is a special value in each such individualised nationality in art and in its architecture as in anything else. The architecture and the buildings of China, so peculiar to it, must needs suit it, and the "ornament" on them expresses the peculiar artistic thoughts and feelings of the Celestial Empire people. It is all emphatically and peculiarly Chinese. Would it not be a loss to the world, we may ask, to lose this art of the Chinese in a foreign and but ill-understood and unfelt art? Is there not, then, in the future some better plan of affording help to the Chinese than that of Westernising them, and, in a measure compelling them to do things in a way foreign to what they can, and do, do so well as it is for themselves? As far as utility and "form" go, this becomes the more certain the further and deeper we look into matters Chinese.

And here, indeed, it is that we may well go to them, as indeed we do, rather than they come to us for instruction. It is impossible to even glance at a genuine Chinese *coloured* object, be it what it may, without perceiving at a glance the power of the Chinese mind over the arrangement, and selection, and harmonising of colours. It seems *instinctive* this faculty for colour, in them, as in most of the Eastern races of men. Has the almost constant sunlight anything to do with it, or is the great luminary here an actual workman? It matters but little what the object is, or what the size of it, or what the material, or what the tone of the colours. All blends together, and harmonises. However bright and purely primitive they may be, there is no vulgarity—a not little expressive word here,—no mere daubing of red and yellow. The tones and judicious quantities of the coloured glass of the middle ages seem to be in process of actual working out, and a fan or a coloured lantern may display all the colours of the rainbow, without it being possible for even the most fastidious to charge their workmanship, either with roughness, vulgarity, or coarseness. It is wonderful to note how the brightest of colours may be made to harmonise and blend together, and in the Chinese dresses and costume generally may be seen really marvels of colour combinations, hardly to be found elsewhere. Indeed, these things struck the minds of the great Venetian travellers themselves, used, as they must have been, to marvels in the way of coloured costume and things full of colour. And be it observed, that this fine colour instinct finds opportunities for display on all hands, and everywhere, and not in painting only. Here, as we know, the word hardly applies in an artistic sense, except when applied to actual picture-painting, while in old Venice and in modern Nankin it must have applied, and must now apply, to actualities, and the open street shows. We might go on and say a good deal even as evidence goes, on the gold and silver tinsel work of China, embroidery, filagree work, metal-chasing, glass-blowing, and ivory carving, in which really marvellous feats of art-workmanship are accomplished, but we must take other opportunities.

Much more indeed might be said on all hands here, for it must not be thought that the curiosity of the outer world has as yet done more than penetrated the superficial crust of this vast empire, for every now and then there is flashed to us some fresh marvel from Cathay. We seem to be able not only to penetrate there farther and farther into remote spots of the earth's surface, but into that of time itself, for things that are here looked on as quite recent and purely of Western and civilised invention and discovery, are found in China to be as old as the very hills themselves. All sorts of inventions, we are told, and discoveries too, claimed to-day as the inventions and discoveries of our own race in Europe and America, were indeed made in Cathay forty long centuries ago! They may not be of quite so dreamy and marvellous a character as those sought for by Marco Polo, and his Venetians, but they are in reality quite as wonderful. There are indeed vast problems to be solved in this oldest empire of the world with its third of population of the world to fill it, to keep it, and to delve it. It is a marvellous place every way, and it does seem a pity that some such "expedition" for discovery has not been inaugurated, either here or elsewhere, as has been done for the ice-bound Polar regions. One day this may be, and when it is, we would hope that the objects of it will be scientific, and *artistic*, as well as "trading";—not the bringing home here specimens of "wares and fabrics," bearing likeness to what we ourselves have; but of things purely Chinese, and of Chinese invention and growth. What do they, the men of the Chinese Empire do, *of* themselves, and *for* themselves? It is well worth action as well as thought, and he must be dead indeed to all intelligent curiosity who could pass without wonder from one to another of their "hundred" cities, all filled with their multitudinous and motley crowds!

SIR RICHARD WALLACE'S TOWN STABLES.

THESE stables, the fitting up of which has just been completed by Messrs. Musgrave & Co., of Belfast, are situated at the rear of Hertford House, Manchester-square.

The principal entrance opens on a range of loose boxes, at right angles to which on the left runs a long row of open stalls. The stables are spacious, and the colour throughout is harmonious, which arises in great measure from the use of Indian teak for the whole of the woodwork. This wood is found to be the best adapted to resist the kicking of horses, being, in fact, suggested for that purpose by its employment in H.M.'s dockyards for "backing" the armour-plates of men-of-war. It has also the minor advantage of being a rich walnut colour, which, taken in conjunction with the chocolate-coloured ironwork of the stables and the china slabs of glazed turquoise colour lining the head walls, gives a feeling of warmth and comfort, and good taste, which is very satisfactory.

In the fittings, wrought iron is used for every

piart liable to be broken, and cast iron for mould. ngs and cappings.

Each loose-box measures 12 ft. long by 10 ft 6 in. broad, inclosed by wrought-iron railings and solid teak panelling, the end of each box towards the gangway having a deep iron railing, which enables visitors to have a good view of the interior of the boxes.

The doors are a combination of iron and teak wood framed up together, with hinges constructed to enable the door when open to fold back against the division, giving all the advantages of a sliding door without its disadvantages.

The latch consists of a flush-bar without spring or other complication, which the attendant can open either from the inside or outside of the box, but it is safe against the most tricky horse. The open stalls have divisions formed with teak, combined with iron vertical railing to match the loose-boxes, but with the addition of a sliding night-bar to every stall, to be pulled across the gangway each night and fastened in the opposite wall, for the purpose of confining each horse to his own stall in the event of his breaking loose.

Although the whole of the upper part of these stall divisions appears to be open railing, a closer inspection shows that this is not the case. A few feet at the head of the stall are filled in with plate iron between the bars, so as to prevent any horse seeing another while feeding, — an important provision.

The form of mangers adopted seems to be taken from the stone mangers which are sometimes seen in old Continental stables, and which consist of a block of stone extending across the end of the stall, with the feeding-troughs chiselled out of the upper surface, and the front rounded off for the safety of the horse. These new mangers are similar to this in external form, but differ materially in other respects, being fitted with a patent flush hay-rack and enamelled tipping troughs, for mashes and for water, the waste from which passes into the hollow chamber below, and is carried off to cleanse the surface drains.

The troughs lie flush with the top-plate, and are so arranged that a horse cannot by any possibility move them, while the attendant can tip them over or remove them entirely with ease. The water supply is laid on by means of a tap specially made for the purpose.

A thing worth noting is that the most confirmed crib-biter cannot lay hold of any part of this manger. Sharp projecting rims are avoided both in the rack and in the troughs, and yet the horse cannot toss out his food.

The tyings are partly chain, to guard against the horse chewing them, and partly leather, which runs noiselessly through vitrified bushings. There is no weight on the horse when at rest, and in case of an accident he can be let free by the turn of a screw.

The floor is laid with adamantine clinkers, and drained by patent iron gutters and stench-traps, which are cleansed every time the water-pot is emptied. The whole of the iron-work is finished in good style, and not without proper regard being paid to architectural effect. The walls of the harness-room are covered with polished mahogany cases. They are fitted up with Musgrave's patent harness and saddle brackets mounted on blue cloth, with cedar-wood cappings, which do not favour moths. In the centre of the room stands a polished pitch-pine table, with massive mahogany top, the lower part fitted with drawers for horse-clothing and cupboards. The work was carried out under the personal supervision of Sir Richard and his architect, Mr. Ambler. Mr. Hales was the clerk of works.

HEREFORD FREE LIBRARY AND MUSEUM.

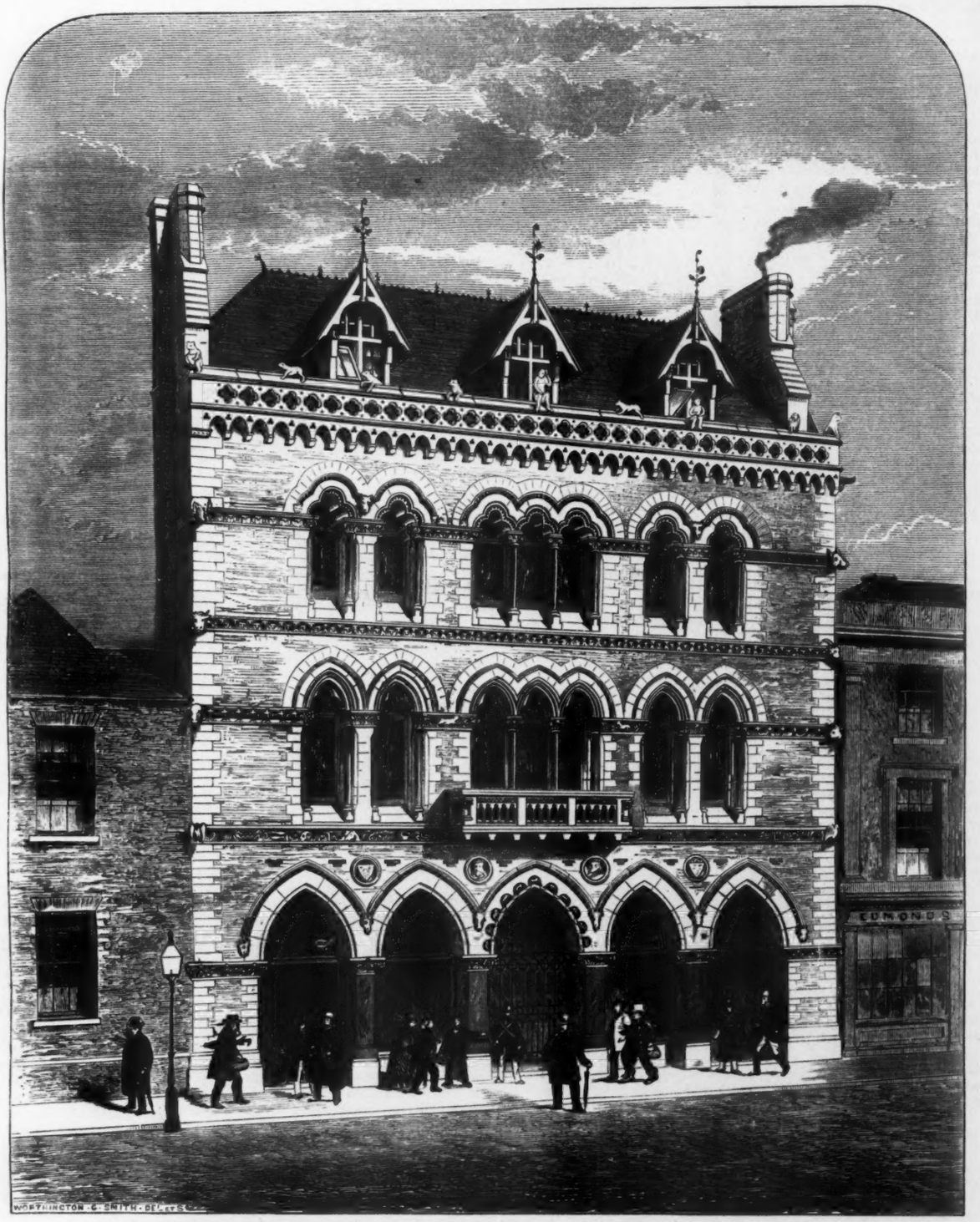
The Hereford Free Library owes its origin to Mr. Rankin, who, with great munificence, has founded the institution, practically at his own cost. He it was who bought the site, which alone cost something like 2,000*l.*; and it is at his sole cost that the library and museum buildings are carried out. The only part of the edifice, as it now is, that is not given by him is the basement-story in the main block fronting to Broad-street, the cost of which is borne by the Town Council. Having purchased the site, the donor's intention was, originally, to lay out only some 3,000*l.* in the erection of the building. But, determined while about it to make the fabric really worthy of the city and of the prominent situation it was to occupy, he subsequently increased his gift by another 1,000*l.* (making 6,000*l.* in all), the Town Council contributing then another 1,000*l.* for the inclusion in the plan of two shops in the basement,—adding by one story to the height of the main building, and so giving it a more imposing appearance than it would otherwise have had.

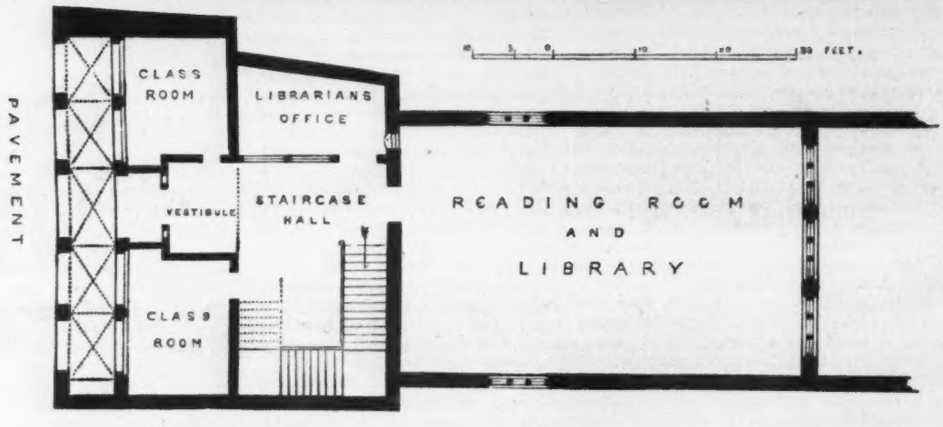
Mr. Rankin's proposal first reached the public ear in the early part of 1871. At that time, however, it was of a different nature; at least, it was not of so comprehensive a character as it subsequently became, nor was it known at that time, except to a few, who the intending benefactor was. All the public knew was that a county gentleman had expressed his willingness to provide a building to be devoted to the purposes of a museum, in which local antiquities might be accumulated and preserved. The only condition that attached to the proposal was that the museum so established should be maintained thereafter by the citizens. The subject was warmly taken up by the local press, and the *Hereford Journal*, in a leader on the 21st of January, 1871, expressed the assurance not only that the citizens would not grudge the comparatively small cost they would incur by the acceptance of the proposal of their then unknown friend, but that they would add to it a sufficient sum to enable them to enlarge the scope of the project, and to have a free library as well. By-and-by it came to be known that it was from Mr. Rankin that the offer emanated of a museum for the city. The matter came before the Town Council for the first time on the 7th of February, 1871, when Alderman (then Councillor) Symonds gave a succinct history of the circumstances which had led to the offer being made. Resolutions were passed by the Council heartily thanking Mr. Rankin for his generous offer, and pledging themselves to render every assistance in carrying through a work in which their constituents were so largely interested. A committee composed of representatives of the Town Council and the Woolhope Club was appointed to arrange as to the maturing of the scheme, and to report to the Council the result of their deliberations. This committee went to work without delay, and at the May meeting of the Council reported that Mr. Rankin had submitted to them the following as the objects of the institution he proposed to found:—1. To provide a Free Library for the people of Hereford, to be open at all hours during which it was likely to be used; the same to be provided with books of an instructive as well as of an amusing character. 2. To provide a museum where objects of natural history and scientific interest, arranged in systematic order, might be preserved, with a view to popular instruction; and wherein, also, scientific meetings might be held and lectures on literary and scientific subjects delivered.

It was resolved that a rate of one penny in the pound should be made by the Council from the time whence such premises were opened; and, finally, that a committee of management be appointed to direct the operations of the new institution. These recommendations were severally complied with. A committee, composed of members of the Town Council and other citizens and residents in the neighbourhood, conspicuous for their zeal in the cause of education and of art and science (of whom Mr. Rankin was one), was appointed to carry out the details in connexion with the preparation and opening of the temporary library and museum, and speedily there was something to show for their work.

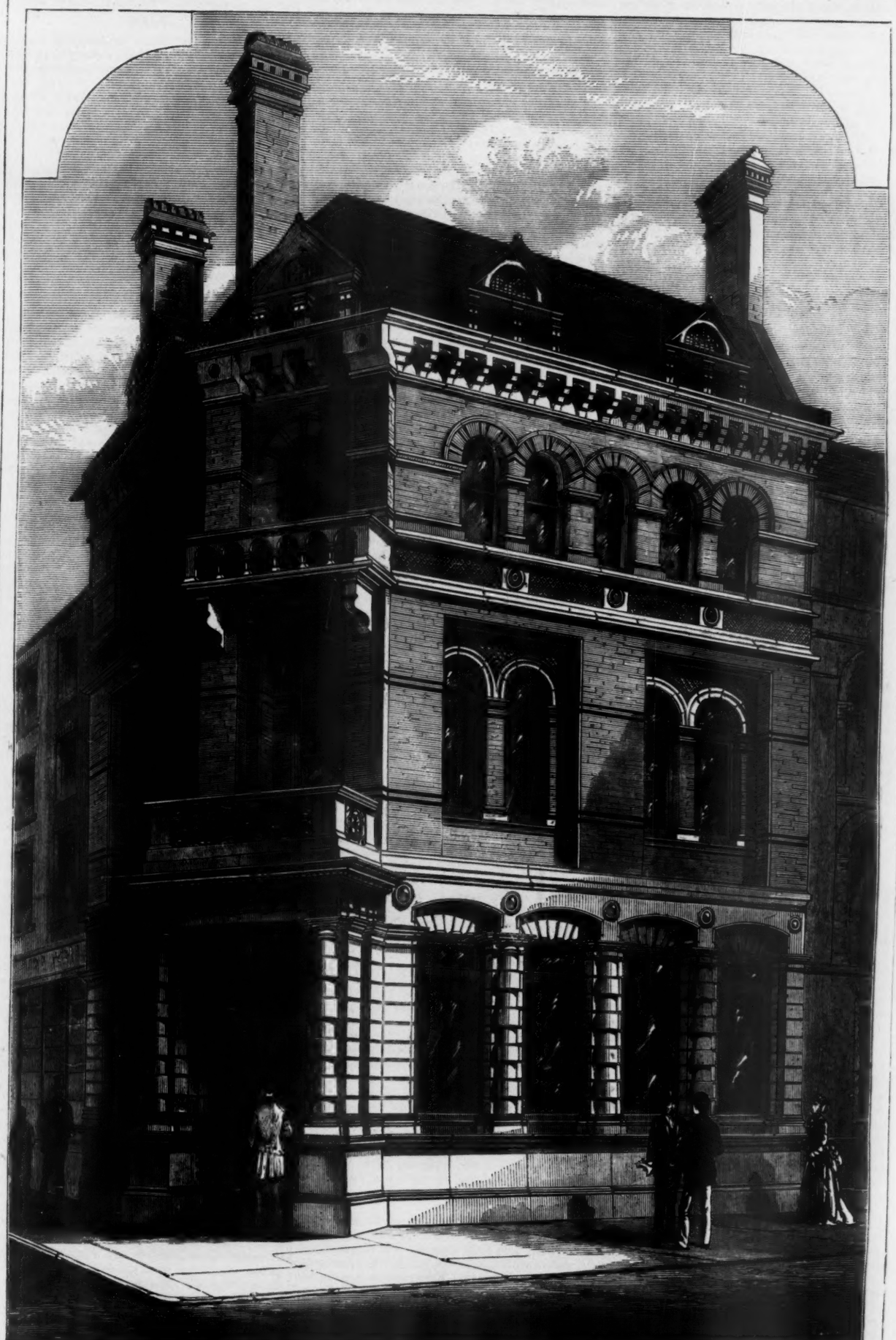
Mr. Rankin's action in connexion with the arrangement of the details involved in the carrying of his proposal into effect has been of a piece with his liberality in the gift itself. He has shown the most unselfish generosity throughout. Having agreed to provide the necessary funds for the erection of the institution which he desired so heartily to see established in the county town, he has been content to leave it to the citizens themselves to carry out the details. He has left their hands absolutely free. They might adopt any style of architecture they pleased; they might ornament it or not as they chose. They should select the architect and the contractor, and they should put up without a single reservation or objection from him, whatever building their fancy might lead them to prefer. All he stipulated for was, that it should be suitable to the purpose for which it was designed, and that it should be so administered as to be an institution of real value for the inhabitants of the city. Nor is it likely to fail in its purpose.

Having given now an outline of the history of the institution, we pass on to give a description of the building itself. An arcade of five arches occupies the entire ground-floor frontage of the building. The centre archway leads to a lobby entrance and staircase-hall, off which, on the ground-floor, are the reading-room and librarian's offices, and on the first-floor the museum and Woolhope Club-room. The two rooms on the ground-floor fronting the street are for the present to be let as shops, but they are designed for use as class-rooms in connexion with the institution. The reading-room and library occupy a large building at the back of the main block fronting Broad-street, and separated from it by the staircase-hall, the size of each room on plan being about 50 ft. by 30 ft. The reading-room is lighted by five large traceried and transomed windows. The museum is lighted from the ceiling; the light entering through the glass slates on the roof is transmitted and subdued by passing through a ground-glass panelled ceiling in the room. On the first-floor the frontage to the street is altogether taken up by a room 44 ft. long and 20 ft. wide, for the use of the members of the Woolhope Naturalist Field Club. The second and third floors of the block of building facing Broad-street are occupied by the librarian's apartments, one floor being arranged as a flat, with kitchen, scullery, sitting-room, store-room, &c., and the floor over is divided into bedrooms. The building generally is built of brick and stone, the front being entirely of stone, selected of different colours. The walling is a blueish grey stone; dressings generally a light brown Campden stone; the four columns on the ground-floor are of Radyr stone. The architect is Mr. Frederick Kempson, and the architecture throughout may be described as Anglicised Venetian Gothic. The carving is of early conventional character, and has been carefully and artistically executed by Mr. Robert Clarke and his brother. Animal life has been introduced freely and with effect. The band of carving under the Woolhope Club-room windows contains the signs of the zodiac, with their symbols. Immediately over the four piers which carry the arcade are four circular medallions, in two of which are introduced the arms of the city and Mr. Rankin's arms; in the other two are heads representing Science and Art. Most of the leading contractors of the city submitted tenders for the execution of the work; Mr. James Bowers's tender (being the lowest) was accepted. The capitals of the four great pillars which carry the building represent Europe, Asia, Africa, and America, and depict the squirrels of Europe, the monkeys of Asia, the crocodiles and waterfowl of Africa, and the cockatoos, toucan, and opossum of America. Above those we have a string-course, formed of the ancient signs of the zodiac and their modern interpretations, interwoven with the perennial foliage of the months which they govern. The next string-course symbolises birds and animals of the chase, which form no inconsiderable portion of the contents of a museum,—owls, a wild cat and bird, a fox, a dog and rabbit, &c., thus showing the hunting propensity in birds and beasts, as well as in man. The heads at the end of the second string-course,—those of a seal and a lion,—possibly have reference to Lord Saye and *Seale* (old spelling) and the corporation of Hereford, whose crest is the lion—thus representing ecclesiastical and municipal government. The third string-course is supported by the heads of a bull and a goat—the former being the crest of a gentleman who has taken a leading part in the management, Dr. Bull (playfully surrounded here by mushrooms, in allusion to his fungus-forays), the latter being the crest of the architect, Mr. Kempson. The elephant and the four-tusked babarcosa on the top course probably suggest the patient plodding and the laborious work which are the conditions of reaching a high position in knowledge. To complete our notice of the carving, we should add that the amphibious animals represented in the niches of the great entrance doorway are the water-shrew, the mullagong (Australia), the beaver, the walrus, the hippopotamus, the sea-elephant, the rhinoceros, the tapir, the otter, the sea-leopard, and the water-rat,—all of which follow in the order in which they are mentioned. The inner niches of the doorway contain carvings of reptiles, birds, and beetles. Of the terminations to the labial mouldings, two are foliated, while the others bear respectively the figures of a crab and a bat. Grotesque animals have been introduced upon the parapet to break the long level skyline. The carving was executed by Mr. Robert Clarke and his brother.



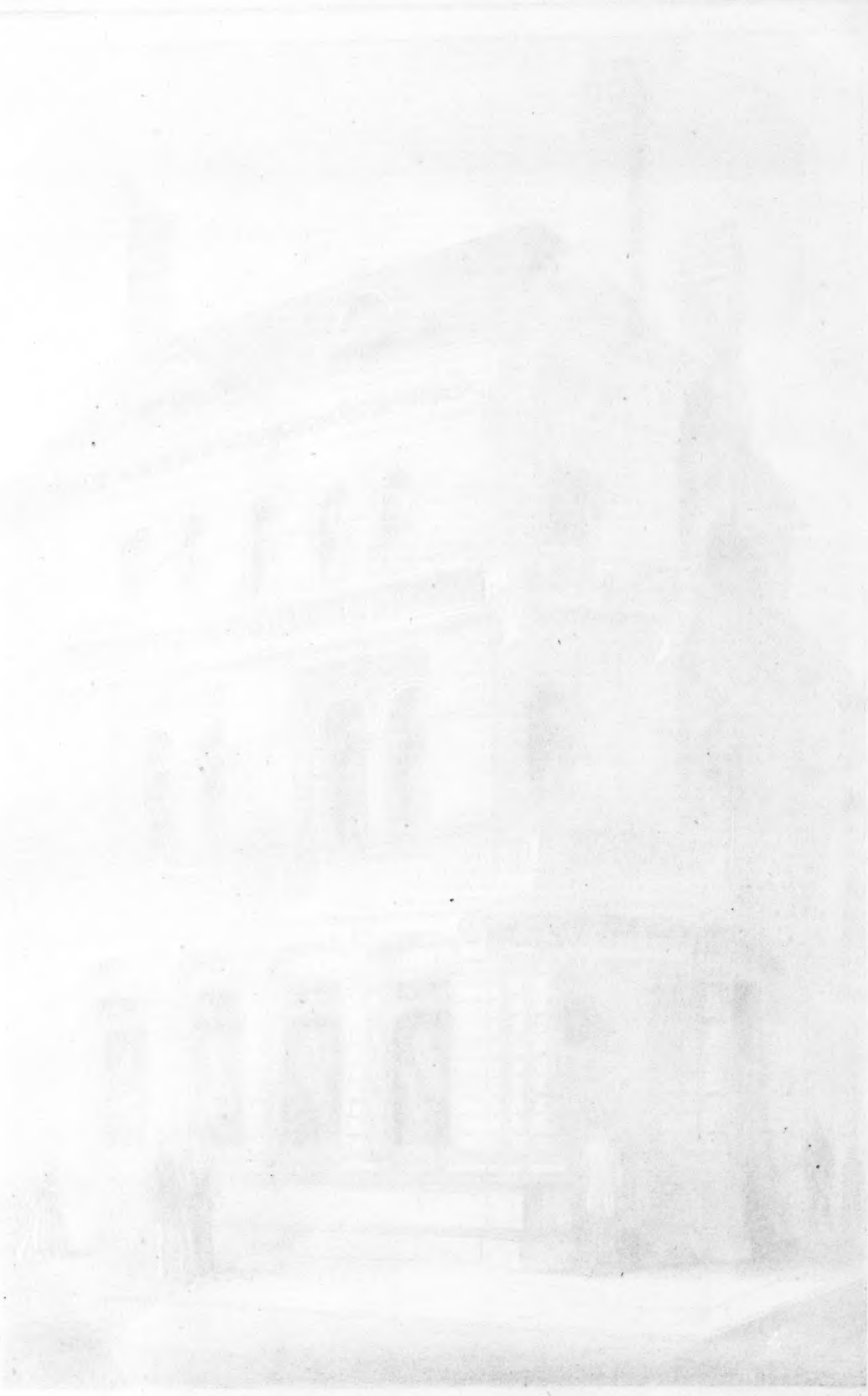


HEREFORD FREE LIBRARY AND MUSEUM.—MR. F. KEMPSON, ARCHITECT.



CENTRAL BANK OF LONDON: BRANCH BANK, STAMFORD STREET, BLACKFRIARS ROAD

MESSRS. EDWIN NASH & W. HILTON NASH, ARCHITECTS.



CENTRAL BANK OF LONDON BRANCH BANK.

THE building, of which we give a view, and now in progress at the corner of Stamford-street and Blackfriars-road, is for a Branch of the Central Bank of London, of 52, Cornhill. It is chiefly in Portland stone and Fareham red brick, and will make a thorough change in the aspect of that spot, which had a kind of grim notoriety from the black-looking and neglected "haunted" house which stood there until recently. The new building contains in the basement an especially strong fire-proof and thief-proof room; on the ground-floor the banking department; and in the upper stories the residence of the manager. The architects are Messrs. Edwin Nash & W. Hilton Nash, and the contractors are Messrs. Rider & Son, at the sum of about 5,000*l.*

ON PUBLIC ABATTOIRS.*

I HAD not given the question of abattoir machinery much consideration before it became evident that the success of the whole establishment depended in a great measure on its proper and efficient application. In the first place, it was necessary to take into account the low order of intelligence possessed by the men who would have to use the machinery (this remark applies only to the slaughterers and not to the master butchers), from what I had seen of these men I concluded that the machinery must be of the simplest form, so as to involve no brain exercise or any mental effort whatever. In the second place, it seemed desirable to reduce manual labour to the minimum; and lastly, it appeared to me to be a *sine qua non* that meat intended for human food should receive as little handling as possible after being dressed, and on no account should it be transferred from the pendent position to the dirty and greasy backs and shoulders of the slaughterers. These being the main points constituting the desiderata of the question, it fell to the lot of Mr. John Meiklejohn, of Dalkeith, to devise a plan by which their realisation might be achieved. Following up the dressing of the carcass, the first thing to be done after the bleeding operation before alluded to, is to raise the carcass from the floor, so that the hide can be easily removed and other little matters attended to, such as decapitation; and at this point the machinery comes in to the assistance of the butcher; this machinery is simply a small hoist travelling overhead, moveable at the will and pleasure of the operator in the slaughter-house. The construction of the railroad is also simple; a girder is fixed transversely in the slaughter-house, with brackets cast to the bottom flange; these brackets support the rails upon which the hoist runs, and are deep enough to admit of the hoist running under the supporting beam. By this method all uprights or columns are avoided in the slaughter-house, thus leaving the whole floor area available. In the wholesale department these rail beams are carried from the slaughter-house across the roadway, and traverse the carcass market transversely, thus enabling the butcher to run the carcasses from the extreme end of his slaughter-house to the street side of the market. As this little travelling hoist is the medium by which the whole work is achieved from the death of the beast to the moment when the carcass leaves the market as an article of commerce, it will be well to adhere nearly to the description given by its inventor in the "Blue Book." This hoist is mounted on grooved wheels, and is moved on the rails by a shaft or handle depending to the level of the hand, or is propelled by means of traction on the four wheels which are made to revolve by a grooved pulley fixed to the axle and driven from the hand by an endless chain. The rest of the machinery fitted to the framework consists of grooved driving pulley wheels and pinions giving a double power, chain barrel, chains, and pulleys. The larger pulley is driven from the hand by a rope, which pulley runs loose upon the spindle, transmitting its power by a small pinion fixed to a larger pulley and to wheel fixed to its spindle. The power is conveyed back to original spindle by a different wheel and pinion; on this spindle the chain barrel is fixed; the barrel is rigged with two chains, the end of one hanging down at one side of the hoist, and the end of the other chain at the other side of the hoist; while one chain is ascending the other is descending, so that while the end of one chain is at the top the end of the other will be at the bottom; one of the chains serves for hanging and taking carcasses off the hooks or loops on one rail, and the other chain for hanging and taking carcasses off the loops on the other rail. The two chains, besides being required for working right and left, save time in reversing, as there will always be one chain available and ready to hoist or lower a carcass as the case may be. The carcass being ready for lifting from the floor of slaughter-house, there is inserted in each hough, along with the cross-tree or way, a double-horned hook, and the chain being attached to the hook in the centre of the cross-tree, the whole can be partially raised by the hoist and checked at any point by a ratchet; and as the carcass is gradually raised up, can be skinned and disembowelled. The rail beams above are furnished with jointed swivel hooks or loops. These hooks or loops are attached to rail beams at distances apart corresponding to the length of the "tree," and when the carcass is raised up, the double hooks inserted in houghs along with the "tree" come immediately under two of the loops on the beams, and each double hook is hooked by one of these loops. When the hoist is lowered away, the whole carcass is transferred to the loops and to the double-horned hooks, and the cross-tree or way comes out of the houghs and frees the hoist, which is then available for raising another carcass. This is left hanging to the rail beam by a hook in each hough; here it is dressed and finished, and as soon as finished it is divided down the back, leaving a half hanging on each swivel, hook or loop, where it is ready for the market. To carry the half carcass into the market, it has to be transferred to the hoist, which is done by linking the chain of the hoist into the unoccupied horn of the double horn hook. When the hoisting takes place, the carcass is drawn up, followed by the jointed loop on which it has been hanging, and as soon as the chain has come to the perpendicular, the jointed loop falls out, leaving the weight of the carcass hanging to the hoist, with a ratchet holding it. The carcass is then ready to be moved along the rails to the market, which is done by means of the handle before described, or by the traction on the two fore wheels, which are made to revolve by a grooved pulley fixed to the axle and driven from the hand by an endless chain, all as before described. Upon arrival in the market, the butcher stops his hoist and the carcass opposite the hook or loop on which he wishes it hung; he is furnished with a rod with a hook at its end with which he lifts up the jointed hook or loop hanging from underside of rail beam as shown; the hook or loop when lifted up comes to a nearly horizontal position, and far enough out to catch the unoccupied horn of the double-horned hook on which the half carcass is hanging; when the hoist is lowered away the hook or loop grips, and as the lowering is continued the weight is transferred to the jointed loop which comes to the perpendicular, and the chain of hoist drops out leaving the half carcass hanging to the beam. The picking off for the purpose of loading in the cart of the purchaser is just the reverse of the hanging process, and to the same movement as that described in taking the carcass off the jointed swivel loop in the abattoir. The machinery just described applies also to the retail abattoirs, the only difference being that the carcasses are loaded at the door of slaughter-house and taken away for sale at the private shop or shamble of the butcher. The sheep and pig carcasses are hung in the market at a lower level than those of the beasts. A projecting corbel is cast on to the face of the columns, supporting the overhead hoistway; this corbel supports a small rail supplied with hooks sliding horizontally on its section. The demand for hanging space for these carcasses since the opening of the market has been so great that additional rails have been provided, held by suspending rods.

If I have succeeded in explaining and describing clearly the operation of Mr. Micklejohn's machinery, it will be seen that both the apparatus and the *modus operandi* are of the simplest nature, and, as the result has proved, highly successful, and worked with perfect ease and the utmost celerity. All I desired as part of my abattoir scheme has been realised. To sum up the advantages gained by the machinery and appliances above described:—A considerable amount of manual labour is saved; after the dead carcass once gets on the hoist, it never leaves the hanging apparatus overhead till the moment it drops into the cart which removes it from the establishment; also from whatever part of the market a carcass is purchased, this machinery enables the seller to detach it from the others and deposit it in the cart of the buyer without in any way disturbing the other carcasses hanging on the beam; and lastly, the handling of meat is reduced to a minimum, a fact which I think of great importance; and in all future abattoirs, constructed on scientific principles, I would recommend this as a desideratum always to be sought after and secured. From experience during the last two years, I am inclined to believe that it would be a matter of considerable difficulty to devise an apparatus superior to the above in its working qualities, which entirely supersedes such plans as the central crane and semi-circular hanging beam, in operation at Edinburgh, and the ingenious but impracticable hydraulic lifting power in use at the Bradford abattoir.

Having detained you quite long enough, I will draw this paper to an end as quickly as possible. It will naturally occur to any one interested in this subject that the drainage of so large an establishment as the Manchester abattoir is a matter of considerable importance. I will briefly describe the plan I adopted, and which I believe to be sound in principle. In an establishment of this kind there is an unavoidable accumulation of filth; and the main point to be observed in carrying out a system of drainage, is to prevent the admission of solid matter into the drains, which would have a tendency to choke them up, and cause useless trouble. I therefore determined that in this abattoir there should not be any openings into the drains, either in the slaughter-houses or cattle lairs; the floors are laid with an inclination from the walls, and a general fall towards the doorways into streets. During the process of slaughtering, all liquid matter finds its way out; and when the floors are cleaned by means of hose-pipes attached to a water-cock in connexion with the city water supply, the cleaners sweep all out at the doors. In the roadways close to the outside walls stone channels are laid the whole length of the elevations of the various blocks of buildings; these channels are provided at certain intervals with a special form of eyes or grids; the grids are hinged to fall back against the walls, and on being opened reveal a cast-iron box or chamber, with a flange all round the top edge, which rests on a rebate cast on the outer shell; this box is movable, and is perforated through the bottom and sides; under the movable box is another chamber opening direct into the trap, which is cast to the outer shell of framework. Nothing of any consequence in the shape of solid matter can get into the trap, but the liquid portion passes away purely. The scavengers of the Corporation attend to the movable boxes at regular seasons, and the contents are carried away to the manure depôt, under the control of the Health Department of the Corporation. The streets in the abattoir are drained and paved in the usual way, the surface and roof water going direct into the drains coming from various parts of the establishment. The grids, boxes, and traps were cast by Messrs. Bunnett & Co. to special pattern, and, in connexion with the plan of drainage, have answered their purposes thoroughly, and I should be inclined to recommend the system of drainage adopted in this abattoir, to those who may have similar works to carry out. The liquid manure is disposed of by the drains, and the solid manure from the live animals is deposited in a temporary pit, which is emptied at certain intervals by the servants of the Corporation. The blood, as before stated, is carefully preserved, collected during the process of killing, and taken to a large stove, where it is manipulated by a company on the premises, but not under Corporation control. After passing through a process in the storing-room, the blood is placed in shallow tin vessels furnished with a tap at one corner. After a time the drawing-off commences, whereby the albumen is extracted; the matter drawn off is an important and valuable ingredient in producing the famous aniline dyes. After the drawing-off is completed, the residue is a peculiar pink-coloured matter of the consistency of jelly, which can be divided by a knife. By a process recently discovered this jelly is converted into a valuable manure. When the carcass is being dressed, a certain portion of the interior is cut away and sold by the butchers as unfit for human food until it has passed through a manufacturing process; this matter is termed the offal, and consists principally of the stomachs and intestines. The stomachs after a process of manipulation become an article of trade known

* By Mr. Darbyshire. Read at the Institute of Architects. See p. 113, *ante*.

as tripe. At the Edinburgh abattoir the tripe is dressed on the premises, but the Market's Committee at the Manchester Corporation deemed it advisable that the whole of the offal should be removed from the site to the private establishment of the tripe dressers. The intestines, large and small, are taken to the gut-emptying room and then sent away, the large gut or intestine going principally to Germany to form cases for a well-known kind of sausage. The stomachs and intestines of pigs are all used for human food.

There are a few construction features in the Manchester abattoir perhaps mostly of a passing notice. The buildings are of red bricks, with Yorkstone stone used where absolutely necessary. The internal walls of the slaugher-houses are lined to a height of 5 ft. with white glazed enamelled bricks; blood stains or any discolouration on these bricks are easily removed by washing, no filth can accumulate on the surface, and a neat and clean appearance is the result. The Carcass Market also has a dado of the same bricks, with a band of cream-coloured bricks as the top course. The floor of the market is somewhat peculiar in its construction, and had to be specially prepared to withstand heavy weights from carts and trucks passing over. The entire floor area was first laid with good common bricks on edge, set on a firm bottom, and each brick having a space round it about ½ in. in width; boiled bitumen or asphalte was poured over all until the interstices were filled up, and several coats of the same material were laid on the surface, the finishing coat was mixed with Spanish sand, and carefully manipulated, until the bitumen was completely covered. The roadway in the centre of the market was formed in the usual convex section, the water channels at each side being formed by a slight concave sinking of the groundwork of bricks. By this method a jointless floor was secured, which can be cleaned with the greatest ease; and hitherto it has resisted all wear and tear, and remains as sound as when it was first laid. A variation of the method above described was used at the Bradford Abattoir, and, I believe, has since been patented by the inventor, Mr. Atkins, of Liverpool. Considerable difficulty was experienced in selecting a flooring for the slaughter-houses, owing to the chemical action they would be subjected to during the process of slaughtering, and after a lengthy investigation into various kinds of asphalte and concrete, it was determined to adopt Yorkshire flags. It would be very desirable that some material should be used for the floors of abattoirs, which would dispense with joints; the joints are liable to wear and become filled up with the dirt arising from slaughtering, and much trouble is entailed in efforts to keep the floors clean. The ventilation in this abattoir is regulated throughout with wood louvres; and by a simple device of attaching the nosing of each louvre blade to a continuous flat iron bar, the whole window can be regulated at pleasure. The establishment is supplied by the Corporation with water and gas under the usual municipal regulations; each slaughter-house being supplied with a stop-cock, to which a hose can be attached for the purpose of thoroughly cleaning the apartment. The total cost of the Manchester abattoir, exclusive of street paving and retaining boundary wall next the river Medlock, has been a little over 30,000*l.* This sum includes gas and water mains, gas fittings, street lamps, and also various fittings for the butchers, in addition to the mechanical appliances.

Having touched upon the main features of interest in the Manchester abattoir, it now only remains to be stated that the establishment has been in full working order for the last two years; and it is a source of satisfaction and pleasure to be enabled to state that it has fully answered the expectations of those interested. The slaughter-houses are let at a moderate rental to the butchers, and a few yet remain empty. The Market has proved a great boon to the trade, and so large number of carcasses are brought for sale, in addition to these produced on the premises, that it is feared the building will shortly want extending. Prior to the erection of this abattoir, the carcass trade was confined to a few hands; since the new market was opened, the number of carcass-butchers has been considerably increased, and an extensive and profitable trade has been developed.

I am informed by Mr. John Page, the Superintendent of the Manchester Markets, that during the month ending December 24th, 1874, there were 1,555 beasts, and 7,611 sheep and calves slaughtered at this abattoir; being 288 beasts, 1,507 sheep, and 44 calves in excess of those slaughtered during the same month in the previous year. These figures, I think, are satisfactory, as indicating an increasing appreciation of the usefulness of the abattoir I had the honour of carrying out for the Corportion of Manchester.

THE "A 1" MORTAR MILLS.

THIS is the name which Mr. F. W. Jackson, of Albert Works, Borough, gives to his new design of mills for steam, horse, and hand power. It is to the steam-power mill that we would specially direct attention, there being many improvements in it over the old mills. In the "A 1" mill two curved brackets cast of a T-section with large bases, do duty for the hitherto ungainly looking crosshead side frames and strut, a cast-iron turned and bored bush being fitted between these brackets in their centre, which are held together by four ¾-in. bolts fitted with nuts and lock nuts. These brackets are provided with slot bolts to permit the rise and fall of the rollers, and also with another slot through which the lay-shaft runs, and owing to their peculiar formation and having fewer joints they are more rigid and easily connected and disconnected than the ordinary mills. The upright shaft is of cast iron with a hole cored through the centre of it, at its bottom end is cast a cap on which the boss of the crown wheel rests: this shaft is turned at its top and bottom ends, and is keyed to the crown wheel which is bored to fit it. The crown wheel in its turn is bolted by six ¾-in. bolts with countersunk heads to the pan. The vertical shaft has a wrought-iron steel-faced toe fitted into its lower end, and prevented from turning round by means of a steel slug. This toe works in a toe box of cast iron. Another improvement is the use of wrought iron for the cross arms, which when made of cast iron are very liable to fracture. These cross arms are held by a single stout bolt on to the centre eye of cast iron, and in taking out the rollers, or replacing the worn-out cross arms, it suffices to withdraw this bolt, and the rollers or cross arms can be at once removed. The demand for these mills is, we hear, fast increasing, and they are now at work at the New Government and Duke of Sutherland's Works at Guildford and Brora, and many of the large works throughout the country.

THE COMMON RIGHT TO LIGHT AND AIR, AND DEFENCE FROM NOISE.

THE question of the right of one person to obstruct light and air from another person's premises has again been made the subject of a legal decision, in the case of Baxter *v.* Bower, heard last week in the court of equity, before Vice-Chancellor Bacon. This was a bill by the trustees of an independent chapel, Burlington-street, Liverpool, against the owner of a boiler-making works, situated on the south side of the chapel, and separated from it only by a narrow lane. The chapel was built in 1840, and in 1870 the defendants built, on what was then an open yard, a shed in which they had since been carrying on their business. Besides the obstruction of light and air, the complainants complained of disturbance by the noise of the work. The rights of the case will be understood by an abstract of the Vice-Chancellor's judgment:—

The Vice-Chancellor said, that the plaintiffs were entitled to relief on both points. The most serious opposition which had been made to the injunction as to light and air was the time which had elapsed since the obstruction was first erected and the filing of the bill. No doubt where a person slept on his rights, made no complaint, and did nothing to make the defendants think that he had any objection to what was being done, the Court would be slow to interfere. But in this case there was no ground whatever for that complaint, because on the 26th of June, 1871, the defendants' solicitor wrote to the plaintiffs' solicitor a letter in which no express mention was made of light and air, the defendants saying they would "take every precaution not to make any noise during the hours of service;" but they added, "We have also to express our assent to the effect that should it (*i. e.*, the working) at any future time become a nuisance and compel the trustees to take any proceedings, we are willing to assume that they are not damaged in their rights by delay." So that it could not be said that the question of light and air was not before the defendants at that time. As to the rest, the evidence was uncontradicted; it was impossible to say that the plaintiffs' light was not in some degree obscured. Then it was said that, because damages were prayed for, the proper remedy of the plaintiffs was at law. But here there was no case whatever for damages, the question being wholly whether an injunction ought to be granted or not. It was shown that no use could be made of the chapel for secular or other purposes owing to the intolerable noise during the hours of work, which were often continued far into the night, sometimes all night long. The plaintiffs were entitled to an injunction to restrain the defendants from permitting so much of the shed erected by them to remain as would intercept or obstruct the free and uninterrupted passage of light and air to the plaintiffs' premises, and from allowing to be made, or continuing, any noise substantially interfering with the due carrying on of religious services and ceremonies, and the due holding of meetings and day and Sunday schools; and the defendants must pay the costs.

DEPOSIT OF PLANS OF NEW BUILDINGS IN OFFICE OF SURVEYOR UNDER THE LOCAL GOVERNMENT ACT, 1858.

BY the Local Government Act, 1858 (21 & 22 Vict., c. 98, s. 34), a local board is empowered to make bye-laws as to the erection of new buildings, and as to giving of notices and deposit of plans by persons intending to construct buildings. The Local Board of South Shields made a bye-law to the effect that every person who shall intend to erect any new building shall give fourteen days' notice to the local Board of such intention, by writing, delivered to their surveyor, or left at his office, together with detailed plans, in accordance with the terms specified in the bye-law. A certain Nixon had begun building a house without having given the notice, &c., and was summoned by the surveyor for the offence; but the justices refused to convict, holding the bye-law *ultra vires*. Against this decision the plaintiff appealed, and the case came before the Court of Queen's Bench on January 20th, when the Justices, — Mellor, Lush, and Quain,—held that the bye-law was within the powers given by section 34 of the Local Government Act, and was reasonable.

THE HASTINGS TOWN HALL.

ANOTHER step, in retracement of the false position taken by the Hastings Council in November, was decided upon last week. Mr. Councillor Hill (Fowler & Hill, architects) brought up a report from the Building Committee, who had revised the "Instructions to Architects." The alterations now made, he explained, were that the large hall should have dimensions of 100 ft. long by 55 ft. wide, and that some of the committee-rooms should be struck out. The payment for the premiums is now to be absolute, independent of the commission, should the author of a premiated design be engaged to superintend the erection, but nothing will be allowed for travelling expenses. As mentioned in this journal a month ago, the total cost allowed for the building will be 20,000*l.*; of which 2,000*l.* are supposed to pay the cost of providing a good foundation, the under soil being a bog. The committee recommended that the "Instructions" should be reprinted, and sent only to those who had joined in the former competition; and that the new designs should be received up to the 22nd of April. This was unanimously assented to.

At the same meeting, it was agreed to apply to the Lords of the Treasury for permission to lease the site of the intended Aquarium and Public Baths to the Limited Liability Company, which has been formed, for a term of 500 years.

KENDAL.

AMONGST the latest improvements here must be mentioned the Tower Buildings, in Stramongate, which have just been erected by Mr. James Thompson, of Castle Meadows.

The Buildings comprise five excellent shops and dwelling-houses, the whole being four stories in height, and are in the Italian style of architecture. The centre shop projects from the rest, is more enriched in its details, and has a handsome balcony. The following is a list of the contractors for the new buildings:—

Walling and Masonry.—Messrs. E. Hutton & Son, Kendal.

Carpenters and Joiners' Work.—Messrs. Holliday & Scott, Kendal.

Slating.—Mr. Henry Goulding, Kendal.

Plumbing and Smiths' Work.—Mr. William Thompson, Kendal.

Painting and Glazing.— Mr. John Beadle, Kendal.

Plastering.—Mr. John Gosling, Kendal.

Shutters.—Mr. John Stones, Ulverston.

Cast-iron Work.—Messrs. Macfarlane & Co., Glasgow.

Floor Tiling.—Messrs. Craven & Dunnill, Salop.

The architect was Mr. Stephen Shaw; and under his superintendence the work has been carried out at a total cost of about 4,800*l.*, exclusive of the site.

GIFT TOWARDS AN AQUARIUM IN LIVERPOOL.

MR. WILLIAM BENNETT, formerly an alderman of Liverpool, has intimated to the mayor that he is desirous of contributing 3,000*l.* towards three special objects with the view of benefiting the inhabitants and improving the health of the town. The first is the establishing of an aquarium; the second, the disconnecting of courts and court-houses from all sewer-gas influences; and the third, the testing by trial, what further supply of water may be calculated upon by sinking large bore holes in the immediate neighbourhood. He states that the only condition he attaches to the gift towards an aquarium is that it shall be connected with and form part of the Museum and Art Gallery now open in William Brown-street, and that a suite of upper rooms suitably constructed would answer the purpose. To the second portion of the gift he attaches no other condition than that prompt action be taken. He remarks that he has his own views as regards making the court-houses into healthy and well-regulated dwellings; but as the immediate cutting off of all sewer connexion is so important for the saving of life, he should attach no conditions that might cause delay. As to the boring for water supply, he stipulates for the right of approving of the engineer employed. Mr. Bennett has for many years past uniformly contended that there never has been any necessity for going to a distance from Liverpool for water supply, urging that there is abundance of well-water within easy reach of the town, and in the offer which he makes he adheres to this theory. He says:—"I do not admit that supplies beyond those we can at present control are required for the next half-century, but to satisfy the minds of those who think differently, and for practically ascertaining, by trial, the correctness of a theory I have long and strongly entertained, I will gladly expend 1,000*l.*, or more, if I find this sum is not sufficient."

THE BUILDING TRADE IN BIRMINGHAM.

ON the 5th inst. a meeting of master builders, bricklayers, and labourers was held in the Temperance Hall, Temple-street, to select persons to represent the different parties on the Board of Arbitration to which the dispute respecting the demand of the men for an increase of wages is to be referred. The Mayor (Alderman Chamberlain) presided. The platform was occupied by the employers, the galleries by the bricklayers, and the body of the hall by the labourers, the attendance being large.

In respect to the bricklayers' dispute the following persons were nominated:—For the masters, Messrs. Briggs, Bloore, Hardwick, Davies, Moffatt, and Surnan; for the men, Messrs. Jackson, Anthony, Hartland, Humphries, Goodenough, & Haines. In the matter of the labourers' disputes the representatives were:—For the masters, Messrs. Briggs, Bloore, Hardwick, Barker, Parton, and Garlick; for the men, Messrs. Stephens, Roberts, Leonard, Garvey, Scott, and Rafferty.

The arbitrators afterwards met, and appointed Mr. Rupert Kettle as umpire.

THE MINERAL SPRING AT NORWOOD.

THE well-known mineral spring at Biggin Hill, Norwood, has recently been closed by the Croydon Board of Health, acting in concert with Dr. Bartlett, the analytical chemist, of the South-square Laboratory, Gray's Inn. Dr. Bartlett has just explained the circumstances under which the well has for the present been closed. He states that fifteen years ago, when he first resided in the neighbourhood, the water was in such request that he had seen long lines of people waiting in rotation to obtain a draught or bottleful. At that time there was only a feeble flow of about ten gallons an hour, and, having analysed the water, and found that it contained valuable properties for sanitary purposes,—an ounce of saline matter to the gallon, one-half being Epsom salts, and the rest consisting of sulphates of lime and soda, soluble silicates, and traces of iron,—the well was repaired so as to afford a plentiful supply, and its fame grew greater than ever. He then goes on to say that since that time the "roughs" have so injured the structure as greatly to impede the flow, and that it is now mainly dependent upon surface-water running into it. He adds that he has discovered by recent analyses, several times repeated, that the whole sources of the spring are now contaminated with sewage matters, which render the water almost poisonous. That nothing can be done until proper drainage removes the influx of such pollutions, and that he is informed that it will take at least nine months before these drains can be completed. Until then he has felt compelled to take action with the Croydon Board of Health to close the spring, which had lately been highly dangerous to the public health.

GAS METERS IN PUBLIC LAMPS.

At Paddington, on October 1st, 1874, the system of attaching a meter to every twelfth lamp, and so paying for whatever gas was consumed, was carried into effect. The Vestry at the same time purchased the whole of the lamp-columns in the parish, and engaged a staff of men to light and extinguish the lamps and attend to the cleaning of the same. The system having now been in working for more than four months, Mr. G. Weston, the superintendent, has prepared a report, which Mr. Dethridge, the vestry clerk, presented to the vestry. The report stated that as regards the quantity of gas consumed, the actual amount per lamp was 5,956·51 ft. per quarter, or 310·57 ft. less than 5 ft. per hour. The economy of the new system may be seen from the fact that when the gain by the reduction of hours and that by the use of the meters, are multiplied by the whole of the lamps in the parish, there is a clear saving of 1,485,986 ft. of gas, which in value represents nearly 400*l.* These are the returns of three months ending the 31st of December last.

NEW R.C. CHURCH AT NEW SHOREHAM.

THE Romish church here, which is fast approaching completion, is dedicated to St. Peter, and is situated on a piece of ground running from Ship-street into John-street, the principal front being in John-street. It is being built by Mr. R. B. Blaker, from the design and under the superintendence of Mr. Buckler, architect, of London, and at the sole expense of the Duke of Norfolk and his mother. The style adopted is Gothic, boldly treated, and the materials for construction are stone, for quoins, window-dressings, jambs, window-mullions, copings, lacing-courses and weatherings, the general facework being clean white land boulders, the interior brick walls being plastered. The chancel is at the east end, divided from the nave by a stone arch, on the north side of which there are a lady-chapel and vestry. The flooring will be of boards and tiles. The roof is a bold open-timber one, divided into bays, and framed together with collars, Gothic principals, &c., all of clean picked stuff, securely bolted together, and to be stained and varnished, the upper side being boarded, and covered with red tiles, with a ridge cresting. There are six windows on each side, and two large ones at the east and west ends, all with traceried heads in stone, and with stone mullions of bold design. A stone corbelled eaves-cornice runs round the exterior, and there are buttresses, with weathered courses. The entrance-doors are of bold framed work, covered with jointed boarding, with ornamental wrought-iron work. The altar, a gift, is expected to be of elaborate design. The lady-chapel is nearly square. Warming and ventilation are provided for. The building will accommodate from 400 to 500 worshippers, and is expected to be opened by April next.

FOUL AIR IN WELLS.

SIR,—Your notice of Messrs. Hayward Tyler & Co.'s machine for forcing air down foul wells reminds me of an expedient that I have found very effective,—simply pouring water down the well either from a pail or, by preference, the rose of a watering-can. Where all other modes have failed this has succeeded, and yet I have found the most experienced well-sinkers unacquainted with it.

The explanation is, that foulness of air in wells very frequently, perhaps most usually, results from the presence of carbonic acid gas, for which water has such an affinity that a few pailfuls of water reduced to spray by the rose, or by falling, will clear a well of considerable depth. WM. WILLMER POCOCK.

*** The remedy is strengthened by dissolving some lime in the water.

ARCHITECTS' AND BUILDERS' LIABILITIES.

AT the Lord Mayor's Court, on Tuesday last, before Sir Thomas Chambers, Q.C., M.P., and a common jury, the case of Bouceneau *v.* Notley was heard. Mr. Macrae Moir (the counsel for the plaintiff) said that his client was a marble merchant, and the defendant was an architect. The latter had ordered from the plaintiff four stone moulded chimney-pieces, and stated that they were to be delivered to a certain person living near Staines. The charge for the same was 13*l.* 10*s.*, and that was the sum which the plaintiff sought to recover. Mr. Moir then read several letters, which showed that the goods were not for the use of the defendant, but for a Mr. Pither, a builder, of Sunninghill, Notting. In one of them also the defendant promised payment in case Mr. Pither was not prompt in settlement. The goods were sent to Mr. Pither, but it was only acting in accordance with the instructions of the defendant. The plaintiff had nothing to do with Mr. Pither, and had not even seen him.

The plaintiff, Mr. Bouceneau, said, that he carried on business in Wormwood-street, Fitzroy-square, at which place the defendant called on the 7th of July last and selected some patterns of chimney-pieces, requesting that an estimate of them might be sent him. A clerk of the defendant's subsequently called upon the plaintiff with the tracings of the mantel, and having seen the patterns asked the plaintiff to write to Mr. Pither for an order for the chimney-pieces; but being in communication with the defendant the plaintiff refused to accede to the request of the clerk. The goods had been supplied at the defendant's order, and the witness said he knew nothing whatever of the builder. It was to the defendant that he, throughout the transaction, looked for payment. After the present action was brought, Mr. Pither had sent a cheque.

In answer to his lordship the witness said that it was a very common occurrence for an architect to give an order for articles required for a house, and to give the name of his client; but the builder was never looked to for payment. The plaintiff was in the habit of obtaining payment from the owner of the house in such cases. His lordship pointed out that from the evidence of the correspondence and the witness it appeared that Mr. Pither, the builder, required the goods in question, had received them, and was debited with them by the plaintiff, and that the defendant had merely acted as an agent in the transaction. It did not signify in the least that the plaintiff had not seen Mr. Pither. Mr. Moir urged that the defendant was the person who gave the order, and to him the plaintiff had looked for payment. After some argument between his lordship and the counsel for the plaintiff, Mr. Moir accepted a nonsuit.

RECOVERY OF CHARGE FOR QUANTITIES.

GWYTHER *v.* GAZE.

THIS case, tried at the Court of Queen's Bench, before Mr. Justice Quain, and reported in the *Times*, raised a question of considerable interest to architects and surveyors, and to those who may employ them.

In 1873 the defendant was anxious to build a warehouse, dwelling-house, and shop in Finsbury, and he instructed the late Mr. Thomas Saward, jun., an architect, to prepare plans and specifications. Mr. Saward instructed the plaintiff, a surveyor, to take out the quantities. In October, 1873, three tenders were sent in by the builder to Mr. Saward. None of the tenders were accepted. It was proved that it was usual for an architect who prepares plans to employ a surveyor to take out the quantities, and that when a tender is accepted the builder pays the surveyor for taking out the quantities, but that if no tender is accepted the building owner pays him. In the beginning of July of last year the building was proceeded with on Mr. Saward's plans, with the exception that the height of the building was one story less than as shown in the plans. The builder employed had not any contract, but was paid as the work proceeded. Mr. Saward died in July of last year. In September the plaintiff sent in his account to the defendant. The builder employed to do the work was not one of those who had tendered, and he had not seen the plaintiff's quantities. The plaintiff contended that, according to the custom, as no tender had been accepted, he was entitled to be paid by the defendant, the building owner. He claimed 158*l.* 5*s.*, being 2½ per cent. on the amount of the lowest of the tenders sent in. It was stated that this was a customary charge.

His Lordship, however, said he thought that a custom that the surveyor should be paid 2½ per cent. on the lowest tender when no tender had been accepted would be unreasonable, and that the plaintiff would be entitled, if to anything, to what the jury might think a reasonable remuneration.

Mr. Peebles and Mr. Cooke, the former Member and the latter a Fellow of the Royal Institute of British Architects, were called, and stated that they thought that 2½ per cent. on the lowest tender was in the present case a reasonable charge. They said that from 2 to 2½ per cent. on the amount of the accepted tender was the charge usually made by the quantity surveyor, and that such a charge was reasonable; that sometimes 1½ per cent. was charged, but this was done by special agreement. On this point the builder at present employed on the work was called for the defendant, and stated that 1½ per cent. was the charge invariably made for taking out the quantities for such a building as that in the present case.

The plaintiff's claim included a sum of twelve guineas which he had paid for lithographing the drawings.

The case for the defendant was that the architect in the present instance had only a limited authority, and that he was told that the defendant had engaged a builder, so that there would be no necessity to take out the quantities to enable builders to tender.

His Lordship left it to the jury to say whether the architect's authority was limited in the way stated by the defendant, and told them that, if it was not limited, the defendant was liable to pay the plaintiff a reasonable remuneration for taking out the quantities.

The jury returned a verdict for the plaintiff.

It was agreed that his Lordship should assess the damages, and he assessed them at 53*l.* 10*s.*

The basis of his Lordship's assessment would seem to have been 1½ per cent. on the actual cost of the building, as estimated in the lowest tender.

TREATMENT OF BUILDERS.

Sir,—As you are ever ready to advocate fair play, we send you the following as a specimen:—

A short time since we tendered for pulling down and rebuilding a public-house in Margate for Messrs. Cobb & Co., brewers; Mr. W. L. Sear, architect. There were three tenders, but one was too late, and it was consequently ruled out of the competition. Ours was the lowest of all, but the amount was in excess of what the employers wished to spend. We were accordingly asked to enter the lists a second time, and submit with the other firm of builders a list of reductions and a reduced estimate. This we declined to do in a second *competition*, but offered to reduce the work at prices based upon our quantities, and we were then requested to do so, the list of reductions being prepared jointly between ourselves and the architect, who checked the prices against those in our first quantities, and also expressed his opinion to us that it would be satisfactory to the employers.

The next thing we know is by the receipt of a note some few hours after, stating that the contract had fallen to another firm, and which proves to be the one who submitted the highest original tender.

Richard Paramor & Son.

TENDERS.

Brown & Son	£2,107	0	0
Rogers (too late)	2,081	0	0
Paramor & Son	2,056	0	0

GAS EXPLOSIONS.

Sir,—Having in mind the frequency of gas explosions through the ignorance of servants, I beg to suggest that the gas companies should have little bills of "caution" printed, which it should be the duty of the inspectors of meters to see placed in such a position in every house that the servants could not fail of seeing them.

Meter.

ORANGE PEEL ON PAVEMENTS.

Sir,—Kindly give me space again to call attention to a great evil carried on in the streets of London and other towns. I refer to the common practice of throwing orange-peel on the pavements of the public thoroughfares. This is a most thoughtless, and, at the same time, dangerous proceeding; and I do think that in many instances, were people only aware of what serious accidents they might possibly be the cause, they would desist from this wanton habit, and either throw the peel into the roadway, or put it into their pockets.

A Daily Pedestrian.

WESLEYAN CHAPEL COMPETITION, WALTHAM, LINCOLNSHIRE.

In a limited competition for this chapel, Mr. J. Wills, architect, of Kingsbridge, Devon, has been successful. The building is to be of red brick, with Ancaster stone for dressings, windows, pinnacles, finials, &c. The style is Decorated Gothic, the tracery of windows being geometrical. The internal fittings will be pitch pine varnished. The roof will be partially open with diagonal tie pieces, under which is placed a four-centred arch, which finishes against the side walls on a light column; and this rests on a carved wood corbel. Estimated cost, including value of old material, 1,000*l*.

Mr. Wills (younger son of Mr. W. Wills, builder), has recently won several competitions for Wesleyan chapels and schools. At Tarwin, Cheshire, and Hook-Norton, Oxon; chapels and schools are being erected from competitive designs, which (as was also the case at Waltham), secured the services of the same Kingsbridge architect. Mr. Wills is also engaged for an elementary school at Portlemouth, Board Schools at Slapton, the Wesleyan chapel and schools at Dartmouth, and other small works in Devon, Cornwall, and Dorset. Lucky Mr. Wills!

GRINDING MONEY.

At Westminster Police-court, Edward Jenner, a builder, of Belgrave Mansions, appeared to an adjourned summons taken out by William Bothwell, a carpenter, for 1s. 6d., claimed in lieu of two hours' notice for grinding his tools on discharge. This case, which, as we stated last week, was adjourned by Mr. Arnold for the decision of Mr. Woolrych, has now been decided. The simple question at issue was whether the carpenters and joiners in the building trade were, on discharge, entitled to two hours' notice for grinding their tools, and to be paid for that time, so that they might go to another job with sharp tools. The complainant was discharged, and the defendant paid him nothing for grinding; hence the summons.

Complainant now called a host of witnesses, some of them delegates at the strike in 1872, and they proved that at Trollope's, Smith & Taylor's, Holland & Hannen's, Myers's, Lawrence's, Jackson & Shaw's, the two hours were allowed. Defendant relied on the rules drawn up and printed at the time of the strike, in which this money was not mentioned, and besides that it was not a custom of the trade, and he verily believed the majority of the firms did not pay the money. He sometimes paid for an hour, but it was not a fixed rule.

Defendant was examined, and deposed that up to 1872 the two hours were allowed, but after the strike and rise of wages it was optional whether the masters paid the money, and the meeting was against it. For that reason the rule was not inserted.

Complainant also relied on the fact that Mr. Bridge, at Hammersmith, had decided this question in favour of the men, and so had other magistrates.

Mr. Woolrych said the rules were very imperfectly drawn up, and this regulation not being inserted he had to see if the payment of this money was customary in the trade. After the evidence of the witnesses called for the complainant it was clear that the custom prevailed in the trade, and he gave judgment for the complainant with costs of summons.

Costs were asked for, but Mr. Woolrych said the defence had been bonâ fide, and he would not order them.

SCHOOLS OF ART.

Wolverhampton.—The annual meeting for the distribution of prizes in connexion with this institution was held at the school on the 3rd inst. Mr. Rupert Kettle took the chair, in the absence of Mr. E. Edwards, the mayor, and said the number and quality of the prizes to be distributed that evening were evidence that the pupils of the school had not fallen behind what had been expected from them, and that the School of Art in Wolverhampton was making real progress. The chairman then distributed the Government prizes, expressing his gratification that four Queen's prizes and a larger number of second-class prizes had been awarded to the pupils in mechanical drawing—a most important fact, for mechanical drawing allied to mechanical skill was the bone and substance of the manufacturing and commercial prosperity of the country. It was easy to get capital for a good investment, but it was not so easy to get that knowledge of mechanical contrivance and the industrial arts which those prizes showed the youths to whom they were given evinced. Major Loveridge remarked that it was still more cheering to the friends of the school to know that in proportion to its numbers it had taken more prizes than any other school in the country.

Birmingham.—The annual meeting of the Birmingham Society of Art and School of Design took place on the 3rd inst., at the Rooms in New-street, Lord Hampton, president, occupying the chair. The Chairman said, it appeared from the report that 492 students had gone up for examination, and that 44 per cent., or very little less, had entirely failed. The fact that two silver and two bronze medals had been won was very gratifying, but he appealed to those present, whom he supposed to be more or less connected with the institution, to be stimulated to further exertions by the very fact that 44 per cent. had failed. His lordship then read a paragraph from the report as follows:—"The committee feels keenly the inadequacy of the public support it receives, and ventures to hope that, as its efforts become better known, it will receive more of that help which it greatly needs." He did not think it worthy of such a town as Birmingham to allow an institution like that to languish for want of means. He did hope that the proceedings of that evening would recall the wealthy population of this great centre of manufacture and industry to the duty which did rest on them of encouraging, so far as they could, an institution which called forth the talent of the rising population. He found that the balance of the institution carried from 1873 was 20*l*. 14s., while the balance carried from 1874 was 107*l*. This was extremely satisfactory. Looking around him, he saw nothing that did not convince him of the great amount of rising talent of that portion of the population which had contributed the productions he saw. The best thing to be done to raise the education and talent of this country was to give every support in their power to institutions like their own, which he earnestly hoped might have, through many years to come, a career of increasing and permanent prosperity.

Newcastle.—The annual meeting of the friends and supporters of this School of Art and Science was held in the Town-hall. The mayor of Newcastle (Mr. W. O. Briggs) was voted to the chair, and in his address said it was a satisfaction to find the position of the school so encouraging. Mr. Bacon, the head master of the School of Art, had told him that Mr. Rhead, who had been some time his pupil, and latterly assistant master, had obtained a situation in an eminent manufactory in the Potteries as director of the art department. It was an important fact, because it was calculated to silence those cavillers who sometimes said the results were poor in connexion with the schools taking into consideration the grants which Government gave towards assisting those schools. The mayor expressed regret that there was no institution in the town similar to the Manchester Athenæum for helping the young people to continue their education after leaving school, and said he hoped that an institution of that character would soon be formed.

CHURCH BUILDING NEWS.

Harby.—The first stone of the new parish church at Harby was laid by Mrs. Jarvis, of Doddington Hall, on the 28th ult. Designs for this new church have been prepared by Mr. John Lee, architect, of London, under whose superintendence the work has been commenced. The style adopted is Early Thirteenth Century. The church is cruciform on plan, and consists of a nave and chancel (77 ft. long and 22 ft. wide), a chapel on the north side of the chancel, forming the vestry and organ-chamber, and a tower on the south side of the chancel, to be utilised for children's seats. The material employed for walling is from Mr. Kirk's quarry, at Lincoln, with Ancaster dressings. A contract for the church complete (without tower and spire), amounting to 1,800*l*., has been signed by Mr. Wallis, of Wragby and Market Rasen. Accommodation is provided for 200 worshippers. The complete work will cost 3,000*l*.

Newark.—The appearance of the interior of St. Leonard's Church has just been greatly improved by the introduction of brass chancel-doors and a brass screen; also a massive corona gaselier, two gospel and epistle lights, and a lectern which springs out of the screen. The workmanship is of a superior character. The ornamental leaves of brass on the screen and gates are wrought by hand, and the total weight of the metal used is very considerable. It is intended to carry the work round the front of the pulpit, so as to make it more complete. The plan of a lectern rising, as it were, out of the screen is a new one. The whole of the things have been made by Messrs. Thomason, of Birmingham. They are a free gift to the church. Since their erection they have attracted a good deal of notice. A new diapason stop into the organ has been introduced.

Everton (Liverpool).—A new church, designed by Messrs. T. D. Barry & Sons, architects, of Liverpool, and dedicated to St. Cuthbert, is about to be erected in Robson-street, Everton. It consists of nave, 97 ft. by 24 ft. 7 in.; chancel, 25 ft. by 22 ft. 7 in.; north and south aisles, 83 ft. by 13 ft. 8 in.; organ-chamber and choristers' vestry at south-east, 23 ft. by 14 ft. 8 in.; vestry at north-east, 18 ft. 3 in. by 14 ft. 8 in.; tower at south-west angle, and an entrance porch at north-west. Advantage has been taken of the slope of land, which falls considerably from west to east, to provide a Sunday school under the east end for 380 children. The design is Early Decorated, and the church will be erected of the local red sandstone, lined internally with brick, and plastered, and faced externally with Burnley parpoints. Accommodation, without galleries, is provided for 750 adults. The contract has been taken by Mr. C. W. Mullin, of Kirkdale, for 5,129*l*., including tower and spire and the school buildings underneath.

Faversham.—The work of re-seating, rearranging, partially restoring, and generally improving the interior of Faversham church, which has occupied a period of upwards of eight months, having been completed, the edifice has been re-opened for divine worship. The work, the entire cost of which is something like 4,000*l*., was divided into two parts, the nave and transepts forming one, and the chancel the other. The former was done by voluntary contributions, the work being under the direction of Sir Gilbert Scott, and executed by Mr. Wilson, of Canterbury. The outlay in the chancel (about 1,000*l*.) is borne by the Ecclesiastical Commissioners, the architect being Mr. Christian, and the contractor Mr. L. Shrubsole, of this town.

The Building Trade in Rhyl.—The building trade was never more flourishing in Rhyl than at the present time. About thirty new houses are in course of erection, and it is contemplated to commence the erection of three more houses at the extreme end of West Parade, in addition to the new ones which have just been erected.

VARIORUM.

A RUSSIAN medical journal, according to the *Engineer*, gives an interesting account of some experiments that were lately made in a theatre at St. Petersburg, on the contamination of the air in theatres. It was found that notwithstanding the movement of the audience in leaving the theatre between the acts, the temperature of the building rose gradually, and the thermometer, which at the raising of the curtain marked 18° Centigrade, stood at 24° at the end of the first act, and indicated 25° at the commencement of the second. The degree of moisture increased less rapidly, but in two hours it had increased 30 per cent., and at the close of the fourth act was considerably more than that of the air out of doors. At the commencement of the performance the moisture in the air corresponded with that of well-ventilated rooms, while towards the end the amount had increased nearly double. With regard to the quantity of carbonic acid, it was found that at the end of the second act it was already more than six times that which is contained in the atmosphere in its normal state, or 1·9 per thousand cubic metres, and at the close of the performance the air in the theatre contained 4·3 c. metres of carbonic acid gas per thousand metres of air.——"How shall I carpet my drawing-room?" asks a writer in *Cassell's Family Magazine*, and then says:—"If you aspire to an Axminster carpet, see that your purse is well stocked with golden guineas before you give the order. I should be well content with Brussels, a good *bonâ fide* Brussels, than which none will wear more satisfactorily. If you find the outlay too great, get a Kidderminster. It will prove serviceable, and is less expensive, for it is a quarter of a yard wider than Brussels. The only objection to this make of carpet is, that custom has awarded it its place in the bedroom. Some people prefer a tapestry carpet, but the patterns of these are usually of so florid and glaring a character, that they detract much from the general effect as it ought to be. It is considered correct taste to represent the earth by the carpet, and the sky by the paper,—that is to say, the carpet should be dark in colour, and the paper light. If, however, it should happen that you are obliged to study economy, and to think of the future, I should advise you not to buy a carpet having a dark ground, for undoubtedly it will become shabby very much sooner than one having a light ground. Every dusty footmark shows on the dark carpet, and at the end of a year every place over which there has been much passing to and fro will show visible signs of the traffic; whereas on the lighter ground threadbareness is not nearly so discernible. The most economical colours are different shades of drab, but even a white ground is more useful than one of claret or maroon."——The *Leisure Hour* gives some particulars of Boxwood blocks for Engraving:—"Boxwood, as most of our readers are aware, is the principal wood used for wood engraving. When we consider the immense number of illustrated periodicals and books that issue from the press, not only in England, but on the continent and in America, together with the various other uses to which boxwood is put, it is a matter of surprise whence it comes. To England alone the quantity annually imported is above 10,000 tons, the average value being about 11*l.* a ton. Circassia is the chief place of supply. The preparation of boxwood blocks for engraving purposes is a special trade in the hands of very few persons, and is centred in the neighbourhood of Fleet-street. For making these blocks the wood is first carefully selected, and then cut up by circular saws into transverse slices about an inch thick, the length of ordinary printing type. After being cut, the slices are placed in racks something like plate-racks, and thoroughly seasoned by slow degrees in gradually heated rooms. When sufficiently seasoned, they are reduced to parallelograms of various sizes, the outer portion of the circular section near the bark being cut away, and all defective wood rejected. Prepared blocks of good box fetch about one penny per square inch, and the very best quality as much as 5*d.* per square inch. In the preparation of a large block—say for a newspaper plate, pieces are assorted as to size and fitted together at the back by brass bolts and nuts. So accurately do the edges of the wood fit together, that after the artist has finished his drawing on the smooth face of this compound block, the screws and bolts are loosened, and the pieces separated and given perhaps to several engravers for their individual manipulation, all that is needed after they have finished their work being to fit the pieces together and screw them up again, when they form one engraved block ready for the printing-press. In such a way are the large double and quadruple page engravings of our illustrated papers produced, and in such a way a block of almost any size can be prepared."——*Old and New London* gives a paragraph which will remind readers of a few facts as to the King's Mews:—"Thornton, in his 'Survey of London and Westminster,' published in 1785, tells us that on the north side of Charing-cross there is a large square, on one side of which is a handsome building used as stabling for his Majesty's horses, and generally known as the 'Mews' or 'Meuse.' The word is derived, as every antiquary knows, from the 'mew' of the young of the falcon and hawk tribe. It appears that, as early as the year 1377, this place was used for the purposes of the King's hawks and falconers, the sport of falconry being one of the most favourite pastimes of the aristocracy, and the chief falconer being one of the most important members of the Royal household. This office, which is hereditary, was granted by Charles II. to Charles, Duke of St. Albans, his son by 'Mrs. Gwynne,' and 'the heirs male of his body;' and it still continues attached to the title. At one time it would seem that the King's stables were at Lomesbury, or, as it is now styled, Bloomsbury; but these stables being burnt down in 1537, King Harry ordered the hawks to be removed, and the 'mews' altered and enlarged for the reception of his steeds; so from that day down to the reign of George IV. the royal stables stood here, and the word 'mews,' in London at least, has become equivalent to a range of stabling. It would appear, from such books of London topography as we have been able to consult, that the old building of Henry VIII.'s time having become decayed, a new and handsome edifice was begun, in 1732, by George II. It was built in the classical style, with central columns and a pediment, and adorned with cupolas and lanterns; but the effect of this architectural display was spoiled by the narrow space in front, and on either side of it, and by the small and mean buildings with which it was hemmed in. It stood as nearly as possible on the site of the front of the present National Gallery.——According to the *Pall Mall Gazette*, a new timber-producing district is said to have been discovered in the interior of Newfoundland, a region hitherto supposed to be utterly barren. Among its naked mountain ridges and dreary swamps, Mr. A. Murray, an officer [of the Geological Survey Office at St. John's, has come recently, according to a correspondent of a contemporary interested in colonial affairs, upon a rich country, which is expected to develop immediately a prosperous lumber trade, and ultimately to attract agricultural settlers. This "treasure-trove" occurred in the valley of the Gander River, the lower reaches of which proceed from a very deep and serpentine lake running east and west between 54 deg. 21 min. and 55 deg. W. longitude.——In the new issue of the *Garden Oracle*, Mr. Shirley Hibberd propounds an extremely simple and somewhat novel theory of fruit production, under the title of "Golden Keys to the Fruit Garden." He first asks why fruit-growing is so peculiarly localised that we find extensive districts, where the soil is of the most productive character, absolutely destitute of fruit-trees, while in other districts fruit trees of all kinds abound, and appear to thrive almost as well on the poor soils as on those that are famous for fertility. We are asked to explain why there are few fruit-trees in Essex and many in Devonshire; why generally fruit production is a rare industry in the east, and a common one in the west of England. Mr. Hibberd avers that while a good soil is much to be desired, the one grand requisite is shelter. The late spring frosts frequently destroy the fruit crop in the bud, but the willingness of the trees to produce a crop is manifested by their abundant flowering. If we can but protect them from the frosts of April and May we may ensure a plentiful supply of fruit; hence to devise the means of affording shelter is the first thing to be thought of by those who purpose to plant fruit-trees. But this is not all. We are told that the trees produced in nurseries are in many cases of the wrong sort, the trade having been seduced into the raising of trees that are destitute of the vigour needful to production. We are asked to compare the vigorous standard trees of an old-fashioned garden with the puny pyramids the modern amateur delights in, and which certain writers advise him to pinch or prune to an extent that renders vigorous growth impossible. We do not understand Mr. Hibberd to object to pruning *in toto*, but it is quite certain he regards the process as, generally speaking, little less injurious than the spring frosts that shrivel up the bloom or cause the incipient fruit to fall from the tree. He declares that the "golden keys" are shelter, and a sheath for the pruning-knife.

Miscellanea.

Fatal Accident to Mr. George Jones, Town Surveyor, Cirencester.—We have to announce the death of a well-known and respected inhabitant of Cirencester, Mr. George Jones, of Dyer-street. The deceased had been for many years town surveyor, and in this capacity it is but right to state that he had been a valuable public officer. In no particular, probably, was his fitness for the post more conspicuous than in the question of flood-water, which had always at certain seasons inundated the cellars of parts of the town. Although he had not altogether cured the evil, he had greatly mitigated it. On Saturday morning, after giving instructions to his men with regard to certain obstructions in the river Churn which, he fancied, might have caused the overflow of the water, he started off on a journey on the business of his inspectorship. On his return, instead of going indoors at once, he went direct to the bridge, only a little lower down, to see if his instructions had been complied with, and their result. There is a stone near the bridge, by which he could tell the height of the water in the stream, and as this place is the only outlet for the water which flows through the town, it was his custom early and late to visit the spot. It was very dark, and he must have knelt on the bridge to look over, and by some sad fatality slipped, falling into the shallow stream on his head, and before regaining consciousness he was drowned.

The Chandor Light.—At a *conversazione* recently held in Edinburgh, Professor Archer drew attention to a new invention, the Chandor light. The apparatus is, in outward appearance, a little tube, 3 in. or 4 in. long, having at one end a revolving button which turns a screw, and at the other a minute angular point of metal, which also revolves, passing over a little orifice in the closed head of the tube. A continuous fuse, formed of a delicate strip of solidified collodion, with a ridge of hardened phosphorus on one of its sides, is slipped into the tube, and, once in position, can be moved upwards by the screw. By the same action which presses the upper end of the fuse against the opening at the top the metal point is turned against the phosphorus, and a small portion of the collodion is thereupon ignited. When the apparatus is affixed to a gas-burner, only a very transient flash is needed for the purpose of ignition, and not more than a seventieth part of the collodion fuse is in the operation consumed. Where, however, the wick of a lamp has to be lighted by the same means, a larger proportion of the fuse, the thirty-second part, in fact, is burned. The apparatus is either portable or adapted to the uses indicated. If a lamp goes out, it can be instantly re-lighted by the turn of a screw, instead of by opening the case, removing the chimney, and striking a lucifer match, where, perhaps, large quantities of straw are lying about.

Proposed New Wesleyan Chapel, Margate.—On the 2nd instant, a meeting was held in the school-room of the Hawley-square Chapel, to consider the best plan to be adopted to erect a Wesleyan Methodist Chapel at Cliftonville, and those present manifested a deep interest in the scheme. In 1871, a piece of land was purchased and given by Sir Francis Lycett and Mr. J. Riley, at a cost of 350*l.* The land in question has two frontages, and adjoins Northumberland-road and Dalby-square. It is intended that the chapel should seat 850 persons. Efforts are to be immediately commenced to raise the necessary funds. The Wesleyans are desirous of building a chapel that will be an ornament to the neighbourhood, and a credit to Methodism.

Fall of a Scaffold, Malmesbury.—Very serious injury is likely to arise from the fall of a scaffold in Ingram-street, Malmesbury, last week.

Seats for the Public in St. Pancras.—It was resolved by the vestry of St. Pancras, a few months since, to have seats placed in various thoroughfares of the parish, in order that people who have to walk along the streets, and are in want of a resting-place, may be able to rest themselves; for in the metropolis there are a very large number of persons who have to walk long distances, and do not wish, or perhaps have not the means, to go into a public-house, coffee-house, or other place to rest themselves. The vestry referred it to the Works Department to provide twelve such seats in the first instance, and on tenders being invited for the supply of them, that of Mr. Lazarus, of 287, Old-street, Shoreditch, was accepted. The sites selected for the first twelve seats are:—Hampstead-road, by Harrington-square; Euston-road, opposite Stephenson's statue; Guildford-street, by the drinking-fountain; Gray's-inn-road, opposite the Royal Free Hospital; Camden-road, by the Crescent; Swaine's-lane, near the Highgate Cemetery; West-hill, by St. Ann's Church; Haverstock-hill, by Maitland Park; Tottenham-court-road, by the chapel; Goldington-crescent, opposite the vestry-hall; Kentish-town-road, by Camden-gardens; and Junction-road. All our suggestions get carried out by degrees.

Destruction of Edinburgh Theatre.—The Theatre Royal of Edinburgh, the principal place of amusement in the city, was burned to the ground on Saturday last. The fire broke out shortly after two o'clock, just when the weekly payments had been made and the treasury had been closed. By the time the first engine arrived the flames had burst through the roof at the south end, and it was at once apparent to the spectators that there was no hope of saving the portion occupied by the stage and its accessories. So quickly did the flames spread that about twenty minutes to three o'clock they appeared through the roof immediately over the auditorium. The stage effects burned with great rapidity, and at three o'clock the northern half of the building was gutted. A few minutes afterwards the greater part of the roof of this portion fell in with a loud crash, and the fire had then full mastery. In less than an hour the whole interior of the theatre was completely destroyed. The cause of the fire has not been ascertained, but it is believed it originated from an explosion of gas connected with the lime-light apparatus used in the pantomime. This is the third time the Theatre Royal has been destroyed by fire within a few years.

The Haseley Waterworks.—The report from the Waterworks and Drainage Committee, at a meeting of the Warwick Town Council recently, said,—That "in accordance with your instructions they advertised for tenders for cast-iron pipes (contract No. 1), and for the laying of such pipes (contract No. 2), and in reply received tenders from the following parties. Contract No. 1:—Messrs. J. & S. Roberts, West Bromwich; the Clay Cross Company, near Chesterfield; Messrs. Cochrane & Co., Dudley; Messrs. J. Abbott & Co., Limited, Gateshead; Messrs. J. Oswald Gardner & Co., London. Contract No. 2:—Mr. C. Hart, Leamington; Messrs. Green & Son, Warwick; Mr. G. F. Smith, Milverton; Mr. A. Sheasby, Leamington; Mr. J. Walker, Crewe; Mr. John Walker, Leicester; Messrs. De Ville & Forest, London; Mr. Docwra, London; Mr. F. Dawson, Bury. Your committee have carefully considered the above tenders and with regard to contract No. 1 they recommend that the tender of Messrs. Roberts, at the following prices, be accepted:—16-in., 12-in., and 10-in. pipes, 7*l.* 2*s.* 6*d.* per ton; 8 in. and 6-in., 7*l.* 3*s.* 9*d.* per ton; 4-in., 7*l.* 5*s.* per ton; special castings, 10*l.* 10*s.* per ton." The report was accepted.

The Sewerage of Harrogate.—By the recent judgment in the Court of Queen's Bench, in the cause Wood *v.* Harrogate Local Board, the Harrogate Improvement Commissioners are required to take the whole of the town's sewage out of the Oak beck before the 1st of April next. The sewerage system had been laid down for the purpose of diverting the whole sewage over land specially prepared to receive and purify it. The Sanitary Committee of the Board have discovered that certain house property in Harrogate has not been connected with the public sewers, and thus the evil complained of has in a great measure arisen. The Board passed a resolution enforcing the immediate connexion of this property with the sewerage system.

Extinction of Fire.—At the Society of Arts, on the 3rd inst., Mr. Coleman, an American civil engineer, read a paper descriptive of an apparatus for the protection of buildings and ships from fire, and for the ventilation of ships. His plan was prevention, and consisted of iron standpipes, one going to the roof and others to the separate stories of a building, the cocks of the whole to be secured in a box in the side wall. These pipes he would work with a steam-engine placed within the building, or close to it. For ships he would have a somewhat similar apparatus. A ship of 1,200 tons could be fitted with his apparatus for 300*l.*, and by it all danger of fire at sea would be avoided. The ventilation of ships he would effect by the use of compressed air and perforated pipes, which would diffuse the introduced air all over the interior space to be ventilated. The principle had already been carried out successfully in the Mont Cenis Tunnel. The use of steam as a means of extinguishing fires he had ascertained by experiment to be an expedient of doubtful efficacy.

An Underground Church.—In Russell-street, Brighton, wherein the fishing population of Brighton is concentrated, there is slowly drawing towards completion a building designed to be a chapel of ease to St. Paul's. The floor of this building is over 30 ft. below the surface of the road in Russell-street, has its principal and only entrance and exit at the south-east corner, and has to be descended to by a long flight of stone steps. There is a nave, in length about 80 ft., measuring from the foot of the stairs to the north end; the altar being placed at the north end, facing the stairs. On the west side, and divided from the nave by six columns of Bath stone, having pointed arches springing from them, is an aisle somewhere about 20 ft. wide, at the north end of which is a vestry, having a gallery over it to receive an organ. In form the church is a long parallelogram, 132 ft. by 50 ft. Its cost is likely to amount to about 8,000*l.*, and will be borne by the Rev. A. D. Wagner. Mr. Wagner certainly never scruples to pay for having his own way.

Attempt to Burn Northallerton Church. On the 4th inst. two young men, named Walter Mayne and Wm. Marshall, residing at Northallerton, were standing about eighty yards from the parish church, when they heard a smash of glass and saw two lights, as if matches were struck, and immediately there was an illumination. They ran in the direction of the church, and discovered that a window-curtain was in a blaze. Raising an alarm of fire, they ran round the church wall, when, as they state, they saw a man dressed in a light-coloured suit running through the churchyard, making for the highway on the east, in the same direction as they ran, but no one was seen to scale the wall, which is about 6 ft. high. Several parties were soon on the spot, when it was discovered that a pane of glass had been broken, through which the lights had passed setting fire to the curtain.

The Liverpool Exhibition.—The report of the Fine Arts Committee upon the late autumn exhibition of pictures in the Free Library and Museum, Liverpool, states that the number of admissions by payments at the door amounted to 16,524 in the morning and 19,905 in the evening, making a total of 36,429, besides 795 season tickets, and about 18,000 pupils of educational establishments of all classes and denominations admitted gratuitously. The number of works exhibited consisted of 509 oil-colours, 568 water-colours, 43 pieces of sculpture and other works of art, forming a total of 1,120. Of these, 1,036 were for sale, and 338 were actually sold for sums amounting to 9,558*l.* 5*s.*,—205*l.* being expended by the corporation in works for the permanent Gallery of Art now in the course of erection.

Coins.—An interesting discovery has just been made at the watering-place of Bourbonne-les-Bains, in the department of Haute-Marne, France. In cleansing the reservoir of the thermal waters, over 4,000 bronze coins or medals, and a few gold coins, have been extracted from the mire. The gold coins have the diameter of an English florin, and bear the effigies of Nero, Honorius, Hadrian, and Faustina Senior. Besides these medals a considerable number of bronze pins and rings were found. One of the rings represents the fore-feet of a horse, others the head of a dragon or serpent; also several small bronze statues representing warriors and wrestlers. These statuettes are exquisitely worked and admirably modelled.

"Closets" in Churches.—At the Bermondsey Vestry last week, the surveyor reported the reception of a letter from Mr. Butterfield, architect to the new church in Jamaica Level, stating that he had never found water-closets required in churches; for many reasons he thought them objectionable. He believed the Church Building Society, to whom application would be made, would entirely object to the putting up of water-closets. The chairman said it seemed that Mr. Butterfield could never go to church. The surveyor observed that Mr. Butterfield was architect to some of the high church and fashionable buildings in the West End. The frontage plans were agreed to, but a wish for the water-closets was to be appended to the official notice.

Preservation of St. Werburgh's Tower, Bristol.—At a special meeting of the Bristol town council, on the 5th inst., the mayor said, as to the removal of St. Werburgh's Church, it was one that had his most entire sympathy. He looked upon such buildings as the tower of that church as milestones on the road of time; and although it was very desirable that, as the population had gone away from the neighbourhood of the church, the church should be removed to some centre of population where it would be a great deal more useful, yet he thought it would be a great loss to the city if the tower were removed. He thought the accommodation required by the public might be met by an archway through it. A motion and amendment on the subject were both lost.

The Channel Tunnel.—The scheme for tunnelling the Channel has got thus far, that two companies—one French and one English—have agreed to try an experiment on each side. They have the necessary concessions, and the needful capital, and are going to bore in earnest. When they have bored, the world will be in a position to judge of their prospects, and not till then. They hope to bore through chalk, to keep a chalk wall fifty yards thick over their heads, and to find no very serious "fault;" and if their hopes are justified, they may make the tunnel, and have no tasks remaining except to secure the needful air, the necessary passengers, and a profit.

Architectural Improvement, Romsey.—A short time since, the Wilts and Dorset Banking Company became the purchasers of the old-established banking concern of the Messrs. Footner, and it has not been long before they have demonstrated that they must march with the times. The first step towards such a desirable end has been the remodelling and enlarging of their banking premises. This has been done. A strong and fire-proof room has been built in the basement. The whole has been carried out from designs prepared by Mr. Parmenter, architect, of Southampton, and under his personal superintendence by the Messrs. Wheeler, of this town.

Dwellings of the Poor.—The following is the title of the essay to which the Howard Medal will be awarded by the Statistical Society in November, 1875. The essays must be sent in or before June 30th, 1875:—"The State of the Dwellings of the Poor in the Rural Districts of England, with special Regard to the Improvements that have been made since the Middle of the Eighteenth Century, and their Influence on the Health and Morals of the Inmates." Further particulars or explanations may be obtained from the assistant secretary, at the rooms of the Statistical Society, Somerset House-terrace, King's College, Strand.

Moody and Sankey's Visit: Danger Ahead.—An "Anxious Inquirer," in the *Liverpool Journal*, writes:—"Can you or any of your readers inform me whether the borough engineer is taking any steps to ascertain the sufficiency of the Victoria-hall, Victoria-street, for the purpose for which it has been erected? If I am informed correctly, the borough engineer is not satisfied with the construction, and, if that is so, the sooner the public are informed of the true facts of the case the better. Secondly, what arrangements are being made for the prevention of fire?"

Demolition of a House at Leeds Illegally Erected.—We understand that notice has been served upon Mr. Dobshaw, to the effect that if the house erected by him contrary to the building bye-laws, be not demolished within one month, the work will be done by the Corporation, and the expense charged to him.

The Paris Loan and Building.—Be its creditors who they may, Paris has launched its loan of 8,800,000*l.* with success, and the mason's trade looks up again. So does the architect's, for all the cash not spent in paying off old debts will go in building and decorations. I do not remember how many new churches are to be erected or beautified, but they absorb a sum, as we should think, quite out of proportion to the means of Paris (says the Paris correspondent of the *Daily Telegraph*). Talking of architects and churches, clericals in and out of the press are hysterically agitating for the removal of M. Viollet-le-Duc from superintendence of the repairs at Saint Dénis. M. le Duc's worldwide renown as artist and antiquary is not even questioned; but he lately confessed in public that it would not seem to him actual profanity and maranatha to set up a Republic. And, again, he has been publishing a series of most excellent articles, headed "Notes d'un Voyageur," in the *XIXme. Siècle*, thereby proving himself eminent in another realm of art. If the Ministry had not resigned, I make little doubt but it would have yielded to the pressure.

Water.—In the inquiry by Major Tulloch into the state of the Southwark and Vauxhall Company's water, which has been ordered by the Local Government Board, consequent upon an application of the Richmond select vestry for power to borrow money to provide a new water supply, Mr. Jabez Hogg and Dr. Thudichum were examined. They both spoke to the impurity of the water, the latter declaring it would take fifty years to clear the water above Teddington-lock, even if all contamination ceased. The inquiry is again adjourned.

Law Courts, Newcastle-on-Tyne.—Mr. William Crozier, county engineer and architect for the county of Durham, who successfully designed and carried out the additions and improvements to the Durham Assize Court, illustrated in our pages, has been requested by the magistrates of the county of Northumberland to prepare plans for similar improvements to the Moot Hall Courts, Newcastle-on-Tyne, in which the assizes for the county of Northumberland, and the county of Newcastle-upon-Tyne, are held.

Drainage of Sheerness-on-Sea.—At a meeting of the Local Board of Health, on Monday last, Mr. Cole proposed that the surveyor should be instructed to prepare plans, and report upon the best means to be adopted for improving the drainage of the whole of the district. The chairman (Mr. J. Ward), in seconding the proposition, expressed an opinion that the Board would be called upon to spend something like 10,000*l.* before the drainage would be made efficient. The proposition was agreed to.

Swimming in the Thames.—The first floating swimming-bath upon the River Thames was moored into position off the Victoria Embankment, close to Charing-cross railway bridge, at the spot previously used as a landing-stage, on the 4th inst. The Floating Swimming-bath Company constructed, about twelve months ago, the hull or lower portion of a floating-bath, and this was tugged up the river from Blackwall by two steam-tugs, and securely moored in the position it is intended to occupy.

The Proposed Metropolitan Gas Bill.—At a meeting of the Metropolitan Board of Works last week, a report was read from the Parliamentary Committee submitting the heads of the proposed Bill for the regulation of the gas supply of the metropolis, and recommending that a Bill be prepared accordingly. After a discussion, in which Mr. Leslie, Mr. Fowler, Mr. E. D. Rogers, M. Alderman Sydney, and other members took part, the report of the committee was agreed to by a large majority.

Narcissus in the United States.—Mr. Charles Hazeltine of New Bedford, of "Narcissus" fame has petitioned the Legislature, for the statuette seized from him last year. Mr. Hazeltine has draped a copy of the image in style of a modern fop and put it in the window of his New Bedford store with this label:—"A true copy of Narcissus 'clothed and in his right mind.'" The *State* holds Narcissus "unclothed" "and in his" wrong "mind."

Proposed Pier at Sidmouth.—We hear, on very good authority, that the manor trustees propose to carry out a pier at Sidmouth, at a cost of 15,000*l.*, provided the inhabitants of the town will subscribe 2,500*l.* towards the improvement.

The East Cliff Gardens, Brighton.—The drawings which have been made by Mr. Dawnay to illustrate the scheme for forming gardens and covered way on the East Cliff or Madeira-road, are about to be exhibited in Brighton. They consist of two pieces or frames, 10 ft. 6 in. long by 3 ft. wide, and four pieces, 4 ft. 6 in. long by 2 ft. 6 in. in width, and, when placed in a row, will thus be nearly 40 ft. by 3 ft. broad. One is a perspective showing the effect of the whole.

The Tyne Engineering Dispute.—The men employed by Messrs. R. Stephenson & Co., engineers, Newcastle, have had a meeting to consider whether they should accept the proposed reduction of five per cent. on their wages, which was to take effect on and after the 1st of March. After some discussion, it was almost unanimously agreed to accept the reduction. The decision of the men was at once made known to the heads of the firm; therefore the dispute is now at an end.

Penzance.—The foundation-stone of new infants' and girls' school for children connected with St. Paul's Church and congregation at Penzance, has been laid. The building will be situate on open and elevated ground facing the south—in Taroveor-road looking towards Belgrave-terrace. The stone was laid by Mrs. Henry Batten, widow of the clergyman to whose munificence Penzance is indebted for the church of St. Paul.

A Ride through a Sewer.—A subterranean inspection of the extensive sewer lately constructed near the New Boulevard of Brussels, was made a few days ago by a select party of English and Belgian residents. This sewer, constructed by the English firm of Waring Brothers & Co., and the completion of which occupied many English and other workmen for several years, was only finally terminated in the early part of last year.

Water for Hull.—At a meeting of the Council on the 4th inst., the Mayor presiding, the Waterworks Committees' minutes were confirmed in favour of a further boring. A motion was unanimously agreed in favour of referring to a special committee the consideration of extending the borough boundary. There had been no extension for forty years, and the town had increased from 50,000 to 130,000 inhabitants.

The Huddersfield New Waterworks.—The Corporation Waterworks at Deerhill and Blackmoorfoot are now in an advanced state towards completion. The Deerhill reservoir, which is estimated to hold 160,000,000 gallons of water, it is expected will be completed within six months, and the reservoir at Blackmoorfoot, with with a capacity of 670,000,000, early next year.

Manchester.—The works in connexion with the buildings to be erected on the Victoria Market site, near the Royal Exchange, Manchester, an account of which was given in the *Builder* recently (January 2), were commenced last week, and are to be pushed on as rapidly as possible. Mr. E. Grimes, late of the Royal Exchange, has been appointed clerk of the works.

Mr. Holloway's Sanatorium for Mental Disorders, Virginia Water.—The contract for the grand staircase lately advertised for public competition, to be executed in Portland stone, with Devonshire marble handrail, Mr. W. H. Crossland, architect, has been let to Messrs. Sharpington & Cole, of Westminster Bridge-road, for the sum of 833*l.*

Museum for Nottingham.—It has been decided to convert the ruins of the castle here into a Fine Arts Museum, the Government and town council promising substantial support if private subscriptions are liberal. On the 4th inst. those already sent in amounted to nearly 5,500*l.*, of which sum Mr. Morley, M.P., has given 1,000*l.*

Building Operations in Greenock.—Building work to the extent of 40,000*l.* was, the week before last, passed by the Dean of Guild Anderson. The buildings to be erected include arcade, and public market; schoolhouse and offices near St. Lawrence-street, Cartsdyke; and various shops and dwelling-houses.

The City Commission of Sewers have elected Mr. John Staples to the chairmanship of the Commission for the ensuing year, in the place of Mr. W. S. Gover, who, in accordance with the standing orders, retires.

Wrington.—A stained-glass window has recently been put up in Wrington Church, by Mr. and Mrs. Bodham Castle, of Clifton, in memory of the James family, Mrs. Castle's relatives. The subject is the Raising of Lazarus, and the work has been executed by Messrs. Clayton & Bell, of London.

The Sewage of Kingston-on-Thames.—The Corporation of Kingston-on-Thames have accepted the offer of the Native Guano Company to treat the sewage of the town at their own expense and risk, and the Company undertake that no nuisance shall arise from the process.

Keble College.—The exterior of the chapel at this college is now nearly completed, but the edifice will not be opened till St. Mark's Day, 1876, in order to allow time to finish the elaborate internal decorations. The building, when complete, will, it is said, have cost 30,000*l.*

National Provincial Bank, Leicester.—The interior of this building, in Granby-street, has lately undergone a thorough renovation at the hands of Messrs. Holland, Son, & Colt, decorators, Warwick, under the superintendence of Messrs. Millican & Son, architects.

The Bournemouth Winter Garden.—The contract for the erection, furnishing, and completion of the above building, has been let by the directors to "Messrs. Fletcher, Lowndes, & Company," of Great George-street, Westminster, and the works are to be commenced forthwith.

Statistical Society.—At the next meeting, to be held on Tuesday, the 16th inst., at the Society's Rooms, a paper will be read on "Improved Dwellings, their Beneficial Effect on Health and Morals, and Suggestions for their Extension," by Mr. Charles Gatliff.

Artizans' Scholarships in Hull.—Mr. William Bailey, of Hull, of the firm of Bailey & Leetham, steamship owners, has given 500*l.* for the establishment of a permanent artizans' scholarship in Hull.

Truro Waterworks.—Great interest is felt in the town regarding the proposed waterworks. Unfortunately up to this time the efforts to obtain water at Bosvigobridge have signally failed.

The Intended Opera House.—We understand that designs for the Opera House, intended to be built on the Thames Embankment, will be invited in a public competition.

London and County Banking Company.—The balance-sheet of the London and County Bank in our advertising columns serves to show the continuous prosperity of this corporation.

TENDERS

For alterations and additions to warehouses, Jewin-street, City. Messrs. Herbert Ford & R. Lempriere Hesketh, architects:—

Perry & Co.	£9,884	0	0
Elkington	9,748	0	0
Downs & Co.	9,497	0	0
Ashby & Horner	9,468	0	0
Scrivener & White	9,461	0	0
Morter	9,412	0	0
Brass	9,321	0	0
Killby	9,253	0	0
Ashby & Sons	9,191	0	0
Williams & Sons	9,041	0	0
Lawrance	9,019	0	0
Simpson	9,010	0	0
Nightingale	8,999	0	0
Adamson	8,834	0	0
Merritt & Ashby (accepted)	8,674	0	0

For alterations and additions to a warehouse, Jewin-street, City, E.C. Messrs. Herbert Ford & R. Lempriere Hesketh, architects:—

Perry & Co.	£2,484	0	0
Ashby & Horner	2,409	0	0
Elkington	2,395	0	0
Downs & Co.	2,351	0	0
Killby	2,329	0	0
Ashby & Sons	2,270	0	0
Simpson	2,238	0	0
Scrivener & White	2,233	0	0
Morter	2,220	0	0
Merritt & Ashby	2,197	0	0
Brass	2,197	0	0
Adamson	2,177	0	0
Lawrance	2,125	0	0
Nightingale	2,115	0	0
Williams & Son	2,040	0	0

For pulling down and rebuilding six shops in Camberwell-road, for Mr. A. Jones. Mr. J. H. Swan, architect:

Sabey & Son	£6,099	0	0
Pritchard	5,895	0	0
Rider & Son	5,787	0	0
King & Son	5,760	0	0
McLachlan	5,585	0	0
Tarrant	5,578	0	0
Deards	5,490	0	0
Thompson	5,380	0	0
W. & F. Croaker	5,259	0	0
Mitchell	5,250	0	0

For Wesleyan chapel, school-room, vestry, &c., Hook Norton, Oxon. Mr. John Wills, architect, Kingsbridge, who also supplied bills of quantities :—

Hopcraft & Bennett	£900	0	0
Bartlett	955	10	0
Orchard	939	0	0
Williams (accepted)	809	7	8½

For the erection of warehouses, corner of Duke-street and Exeter-street, Lisson-grove, Marylebone, for Messrs. Spencer, Turner, & Boldero. Mr. T. Parker, architect :

Trollope	£8,875	0	0
Hills	8,674	0	0
Peto	8,594	0	0
Simpson	8,560	0	0
Cross & Son	8,545	0	0
Dove	8,490	0	0
Smith	8,139	0	0
Morseman	8,075	0	0
Colls	8,040	0	0
Temple & Foster	7,090	0	0

For additions, alterations, and repairs to 11, 12, and 13, Bow-lane, for Mr. Edward Carlile. Messrs. Tress & Innes, architects :—

Hawtrey & Son	£947	0	0
Conder	915	0	0
Sewell & Son	886	0	0
Newman & Mann	855	0	0

For rebuilding No. 6, Hampstead-road, for Messrs. M. & N. Salaman. Mr. B. Tabberer, architect :—

Johnstone & Co.	£1,632	0	0
Cohen	1,560	0	0
Baugh	1,558	0	0
Downs & Co.	1,499	0	0
Crabb	1,375	0	0
Robinson	1,372	0	0
Palmer & Son	1,355	0	0
Mark	1,338	0	0

For alterations and additions to premises, No. 73, Mile-end-road, for Mr. T. Wickham. Mr. W. Mundy, architect :—

Marr	£863	0	0
Forest	777	0	0
F. & F. J. Wood	777	0	0
Stamp & Bowtle	763	0	0
Judd & Hawkings	749	0	0
Hearle	744	0	0

For building shop front, and alterations in the Essex-road, Islington, for Messrs. Sellers, Brothers :—

Batchelder	£367	0	0
Salter	350	0	0

For the reconstruction of the inner portion of the Upper Globe Dry Dock, Rotherhithe. Mr. Edward Charles Homer, engineer :—

Moodie & Co.	£3,000	0	0
Sheffield	3,000	0	0
Entrance to Dock.			
Kirk & Randall	£1,832	0	0
Sheffield	1,740	0	0
Chafen & Forrow	1,670	0	0

For rebuilding and enlarging the manor-house, Newnham, for Mr. Tom Goold. Mr. J. P. Moore, architect :—

King & Godwin	£3,350	0	0
Clutterbuck	2,900	0	0
Humphris & Co.	2,891	5	7
Fream, jun.	2,830	0	0
Coleman Bros. (accepted)	2,795	0	0

For school at Steeple Aston, Oxford, for seventy infants. Mr. William Wing, architect. The Committee find walling, stone, and haulage :—

Kimberley	£571	0	0
Franklin & Son	408	0	0
Hopcraft	385	0	0
Hopcraft & Bennett (accepted)	280	0	0

For the re-erection of a warehouse, in Wellclose-square, Whitechapel, for Messrs. Henry Smith & Co. Messrs. H. M. & W. Grellier, architects. Quantities supplied by Messrs. William Waymouth & Son :—

Knight	£2,351	0	0
Oxlade	1,978	12	3
Little	1,949	0	0
Jacobs	1,890	0	0
Outhwaite & Son	1,718	0	0

For additions to schools, St. Mary Abbotts, Kensington, for the Ven. Archdeacon Sinclair. Mr. G. M. Hills, architect :—

Manley & Rogers	£6,998	0	0
Chappell	6,973	0	0
Hill, Higgs, & Hill	6,860	0	0
High	6,777	0	0
Bayes & Ramage	6,613	0	0
Hopley	6,600	0	0
Culam	6,529	0	0
Morland & Nixon	6,325	0	0
Grimwood & Sons	6,170	0	0
Dove Bros.	6,675	0	0
Stimpson	5,980	0	0

For St. Margaret's Church, Barking-road. Mr. F. W. Tasker, architect :—

Scrivener & White	£4,285	0	0
Bangs & Co.	4,223	0	0
Nightingale	3,763	0	0
Killby	3,756	0	0
Bostock	3,600	0	0
Linnell	3,600	0	0
Grimwood & Sons	3,598	0	0

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